

CUSTOMER RETENTION STRATEGIES FOR INDIAN CELLULAR SERVICE INDUSTRY

ABSTRACT FOR THE THESIS

SUBMITTED TO ALIGARH MUSLIM UNIVERSITY FOR THE
AWARD OF DEGREE OF

DOCTORATE IN BUSINESS ADMINISTRATION

By

SANJAY BHATIA

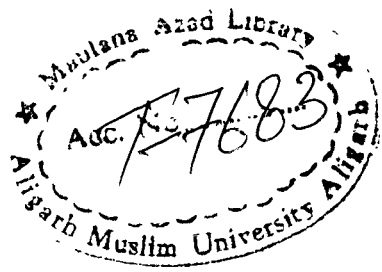
Under the Supervision of

Prof. Kaleem Mohd. Khan
Dean & Chairman
Department of Business Administration
Aligarh Muslim University
Aligarh – 202002.
Internal Supervisor

Prof. Vijay Kumar Kaul
Head
Department of Business Economics
University of Delhi, South Campus
New Delhi – 110 021.
External Supervisor

DEPARTMENT OF BUSINESS ADMINISTRATION
FACULTY OF MANAGEMENT STUDIES & RESEARCH
ALIGARH MUSLIM UNIVERSITY
ALIGARH – 202002
INDIA

2005



ABSTRACT

Service organizations, throughout the business world are constantly seeking new ways of effectively retaining their customers (Desatnick, 1988; File & Prince, 1994, Reichheld & Sasser, 1990). There is a growing importance of customer retention globally and Indian cellular service industry is no exception. The story of Indian cellular industry started in July 1995, a decade later it is one of the fastest growing cellular markets worldwide and ranks amongst the top ten telecom networks in the world and the second-largest in Asia (Ramachandran, 2004). The Indian cellular industry has witnessed a phenomenal growth along with a growing rate of customer defection.

In May 2005, Indian telecom reached the historic landmark of 100 million telecom subscribers (TRAI, 2005a), with cellular subscribers contributing 50 per cent to this figure. The cellular services, during the last six years have achieved CAGR of 85 per cent. It has grown from a mere 0.88 million subscribers in 1998 to a staggering 52.2 million in financial year 2005 (TRAI 2005b).

Research firm Gartner, in their study of the Asia-Pacific region found that the monthly churn¹ rate in the Indian cellular service industry to be in range of 3.5–6 per cent, which is one of the highest in this region (*CellularNews*, 2003). IDC India, in their nationwide annual user satisfaction survey, reported a figure of 8–10 per cent (*Voice & Data*, 2005). These figures clearly indicate a rise in the switching behaviour of the Indian subscribers.

Indian cellular service operators today are facing increasing competition, decreasing ARPU² and rising revenue loss because of subscriber churn. Indian service providers are looking for new ways and means to formulate an effective service strategy that will give them ability to sustain competition and retain their customers.

¹ Churn is a generic term, used when a customer changes his service or service provider. For the purpose of this study, churn has been considered, only as a change of service provider.

² ARPU – Average Revenue Per User

Research Objectives

The overall objective of this study is to understand how service providers are currently aligning themselves to the challenge of customer defection, and on what premises they should base their future customer retention strategies. The review of existing literature on customer retention indicated that in order to identify important constituents of successful customer retention strategies, the causal relationship between service quality, customer satisfaction, switching behaviour and intention to recommend needs to be investigated in context of Indian cellular service industry. This study, attempts to design a framework for measuring service quality in this industry, with the focus on identifying essential components that need to be part of an effective customer retention strategy. To aggregate, the study seeks to fulfil the following research objectives.

- A) To analyse the current strategies adopted by cellular service providers for retaining their customers.
- B) To examine different patterns of churn and loyalty among cellular users and the reasons thereof.
- C) To investigate the relationship between quality, customer satisfaction, and switching behaviour.
- D) To identify the service quality attributes for cellular service and measure their importance and performance as perceived by cellular users.
- E) To identify the service quality factors that influence customer satisfaction and customer's intention to switch
- F) To suggest how the cellular service providers can improve their existing retention strategies.

Literature Review and Research Gap

Customer retention in the recent times has been one of the most sought after subjects, in service marketing research. Several customer retention studies have been done across different service industries, including financial services (Poel & Larivière, 2004), retail banking (Rust & Zahorik, 1993), and hospitality marketing (Shoemaker & Robert, 1999). However, the literature is short of theoretical and empirical analysis, in the context of cellular service industry.

With the growing concern over churn in the cellular industry, some researchers have attempted to understand this phenomenon (Woo & Fock, 1999; Gerpott, Rams & Schindler, 2001; Kim, Park & Jeong, 2004; Aydin & Ozer, 2005). However, these studies have focused on issue of customer defection, only in the light of service quality, customer satisfaction, behavioural intentions, and switching barriers. These studies do not analyse the effectiveness of the current customer retention strategies in the industry, or suggest ways to further improve them. Moreover, the extant studies have focused on understanding customer switching behaviour, only by analyzing the customer's perspective and have not investigated service providers' viewpoint. To design and implement effective customer retention strategies the opinion of both the customers and the service providers needs to be examined.

Based on the above mentioned research gaps identified, a different approach was designed for the purpose this study (Fig. 1). This approach takes into consideration the various dimensions explored by different researchers from the customer's point of view and has added the component of the service provider's view.

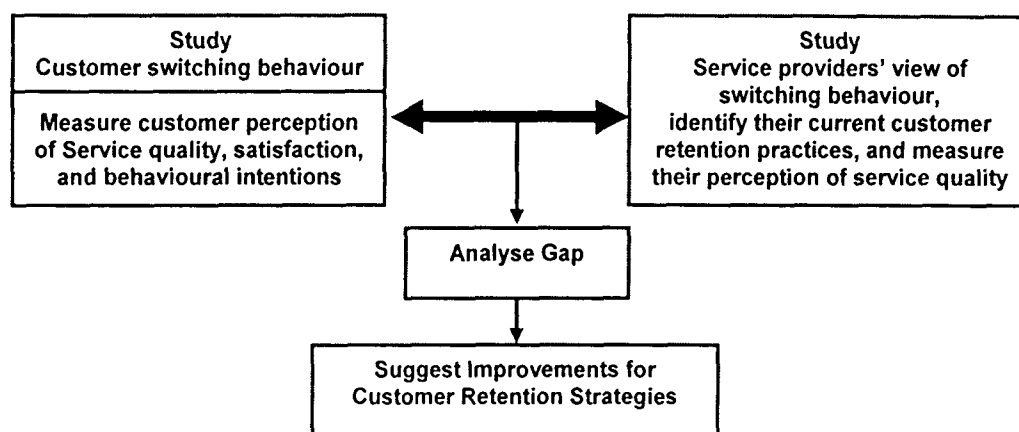


Fig. 1 Research Approach Adopted for this Study

Model and Hypotheses

Based on the integrated approach required to study customer retention, discussed above, and in line with the research objectives, a study model was created (FIG. 2). This proposed study model captures the empirical framework for both, the customers and service providers.

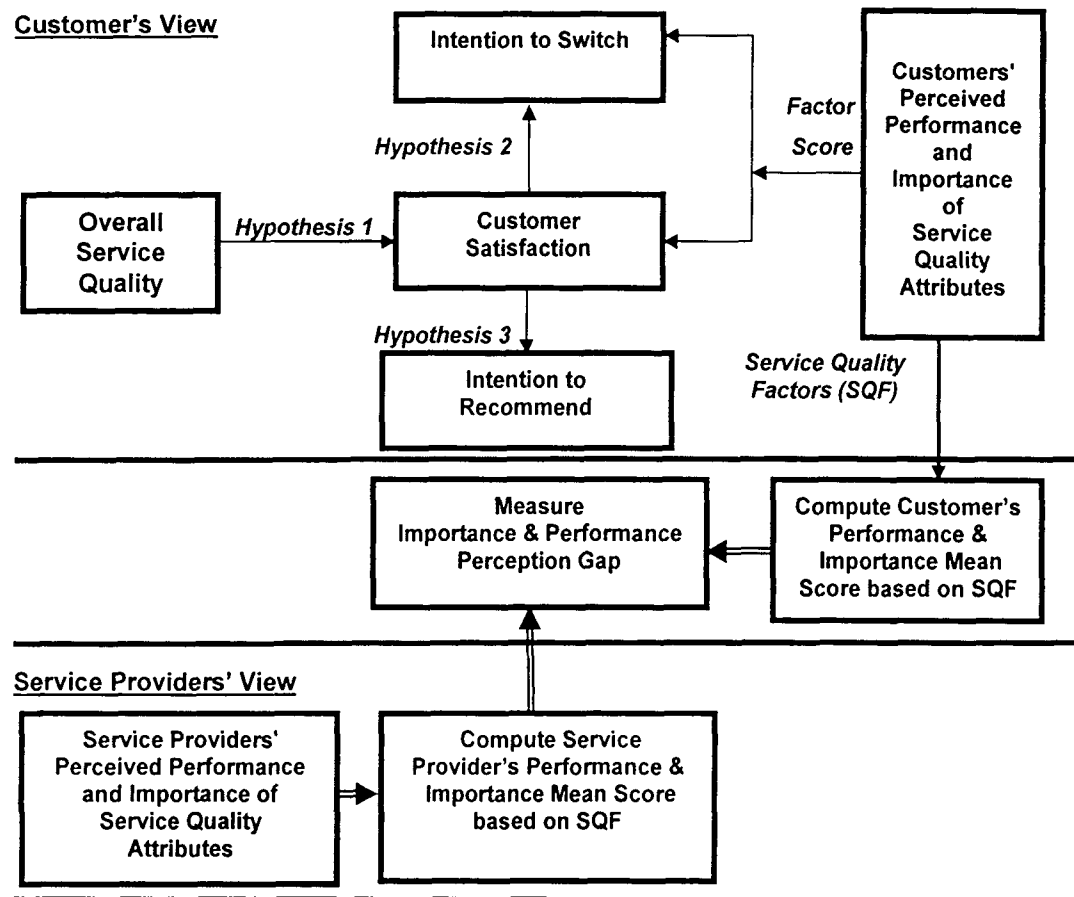


Fig. 2 Study Model adopted for this study

The study model highlights three dimensions of the customer's perception to be investigated (Fig 2). The first aspect deals with the following three hypotheses involving constructs namely, 'Overall service quality', 'Customer satisfaction', 'Intention to switch' and 'Intention to recommend',

- **H1:** The higher the overall service quality perceived by a customer, the higher will be the customer satisfaction.
- **H2:** The higher the level of customer satisfaction, the lower will be the intention to switch.
- **H3:** The higher the level of customer satisfaction, the higher will be customer's intention to recommend.

The second aspect of investigation involved measuring the customer's perception of service quality. It was evaluated by means of 26 cellular service quality attributes, on the perceived performance and their importance. Using the

statistical technique of factor analysis, the goal was then to reduce the number of variables from 26 to a few meaningful, manageable and parsimonious sets of service quality factors, based on perceived performance.

The third aspect of the analysis was to identify the influence of these factors on constructs of 'Customer satisfaction' and 'Intention to switch'. As depicted in the study model, the service providers' perception of their own performance and importance was also measured. The same set of 26 service quality attributes were employed, as that used for measurement of customers' perception. Further, in order to comprehend the perception gap between the service providers and the customers, the difference of their importance and performance mean scores, based on the service quality factors were examined.

Research Design and Methodology

This research is quantitative in nature and has been conducted in three phases. As part of the first phase 'Research Framework Development', two research instruments were developed, one for customer survey and the other for service providers' survey. Structured, non-disguised and close-ended questions were used in the customer research instrument. For the service providers a non-disguised, semi-structured and interview-based research instrument was framed.

There is no published Indian cellular subscriber phone directory available, similar to fixed-line phone directories. Thus, cellular service providers were approached to provide cellular customer data to conduct the survey. Out of the 14 operators available, nine operators agreed to give list of their customers, and participate in the study. The combined lists given by the nine service providers consisted of 87,500 individual post-paid subscribers belonging to the National Capital Region (New Delhi and adjoining areas), and parts of Punjab and Haryana.

Using a systematic random sample procedure, a sample of 2500 customers was selected. In the second phase 'Data collection' activity was performed. The primary data was collected using the two research instruments developed for this study. The survey work started in July 2004 and ended in December 2004. The

customer survey was sent by mail to all 2,500 subscribers who had been drawn in the sampling procedure. They were also contacted personally through phone, e-mail and SMS. At the end of the customer survey process, a total of 615 questionnaires were received and 545 questionnaires were found to be valid for final data analysis. For the service provider's personal interview was conducted with the respective senior managers responsible for customer retention function. In the third and the final phase of this study, empirical analysis was performed. The survey data collected from the respondent customers and service providers was entered in the statistical package SPSS 10.00 for empirical analysis.

Summary of Results and Conclusions

The results, of this research have been delineated below, combining the inferences drawn from the data analysis of both respondent customers and their service providers.

- **Churn and Loyalty figures** – According to the respondent service providers, the industry has witnessed rising churn rate in last five years. Their current estimates of the average monthly churn rate in the industry ranges between 3 to 5 per cent for post-paid subscribers. Overall these monthly figures are quiet high resulting in significant revenue leakage. The analysis of the respondent customers' data also revealed high churn rate.

The past switching behaviour analysis of the respondent customers revealed that around 25.1 per cent of them had switched to the current operator and the rest stayed loyal. A drill down churn time period analysis also showed that, the churn rate has been on the surge since the year 2001. Interestingly, this period of churn increase is similar to the growth phase of Indian cellular subscribers as described in report of TRAI (TRAI, 2005b). This indicates that the growth drivers, not only lead to new subscription but also induced customer defection. Further, analysis of the propensity of the respondent customers to switch in the future indicated that 16.3 per cent of them are considering switching. This substantiates the fact that the service providers require to take a long-term view of churn management and its prevention.

- **Reasons for Churn** – Both, the respondent service providers and customers associate the attrition behaviour to factors such as, poor network quality, availability of cheaper tariff plans, billing inaccuracies, poor quality of CDMA handsets, inefficient customer care team, availability of Value-Added-Services, and switching incentives offered. Out of all these factors, poor network quality and availability of cheaper tariff plan emerged as the most significant reasons.
- **Voluntary/Involuntary Churn** – Churn in the industry exist in both forms, voluntary as well as involuntary. In case of voluntary the customer informs the service provider before leaving, where as in case of involuntary the customer switches without informing. The service providers have devised various systems and process work-flows to handle both these types of churn. An important dimension that emerged from respondent customer analysis is the fact that involuntary churn (60-70 %) is higher in the industry as compared to voluntary churn (30-40%). Analysis also indicated that, in 35 per cent of voluntary churn cases, no effort was made by the incumbent service providers to retain them. Thus, clearly indicating that the current churn management systems employed by the service providers have a large scope to improve their effectiveness and defection turnaround success rate.
- **Loyalty Behaviour** – Analysis of the fidelity behaviour of the respondent customers indicates that the service providers need to maintain high degree of customer satisfaction on quality, price and service differential in order to retain their customers. However, there is a potential landmine, about 28 per cent of the non-switchers actually feel hostage to their current service provider, because of the non-availability of mobile number portability. TRAI has already moved to implement mobile number portability in India soon. It is obvious that once it will be implemented in India, there is a higher probability that such customers will switch.
- **Retention Focus** – The results of 'Did change vs. Will change analysis' and 'Loyalty vs. Satisfaction matrix' analysis indicated that the service providers

should accurately segment their customer base to clearly identify the loyalist, and potential switchers and vagabond customers. Focusing their efforts on the right group of customers will help them to maximize their retention efforts.

The findings from the churn and loyalty behaviour analysis indicate that churn will require utmost attention of the service providers. This rise in the churn figures also points to the fact that the existing retention practices and churn management measures built by the respondent service providers are inadequate and lack strategic focus.

Current Retention Practices

The customer retention practices currently adopted by the respondent service providers were classified into four broad categories. For each category, listed below, areas of improvement have also been identified based on empirical analysis of the respondent service user's data.

- The *Churn prediction* category constituted three types of measures – churn analysis, early detection of fraudulent cases, and identification of vagabond customers. Among these measures the detection of fraudulent cases was found to be the most widely adopted measure. Based on the churn and loyalty behaviour analysis, two areas of enhancement were identified. First, the focus of churn prediction measures should be, to classify the potential switchers by their profitability. Second, there is a need to improve the churn prediction tools by employing more rigorous statistical techniques, and advanced data modelling and data mining software to improve their accuracy of forecasting potential switchers.
- The *Business process improvement* category indicates that the main emphasis of the respondent service providers is on strengthening the service intermediaries (dealers/retailers), improving service support, billing process, key accounts management and in case of CDMA, improving the quality of handsets. The implementation of customer's profiling and proper handling of new customers is also widely practiced. Four areas of improvement were

identified in this area. Firstly, quality assurance practices such TQM (Total Quality Management) need to be more rigorously practiced across the industry. Secondly, service providers need to shift their strategic focus from a reactive approach to a more proactive approach to customer retention. Thirdly, high service culture orientation among all the departments within the organization needs to be propagated. Lastly, the service providers need to create better proximity with their customers, by proactive suggestion of more appropriate tariff plans, increasing the awareness and frequency of customer surveys, implementing loyalty schemes, and making effective use of information stored in the customer database.

- As part of *Infrastructure improvement* category, the respondent service providers highlighted two prominent measures - strengthening of network capabilities and improving IT and other support systems. In addition to these, some of the service providers have also initiated customer database cleansing and updation activity, since the information stored in it is incomplete or inaccurate. In this category two areas of improvement were identified. Firstly, the results of the empirical analysis established the fact that the poor cellular network service is the prime reason for customer defection. Hence, this area will require the service providers to pay special attention on continuous basis. Secondly, the existing customer care and billing software applications being used by the service providers need to be upgraded. These applications should allow the implementation of complex tariff plans and service discounts, cross-product offers, and user alerts. Availability of such features will allow the marketing department to build good switching barriers, and create value-addition in the services being offered.
- Under the category of *Building switching barriers*, the respondent service providers indicated four specific measures. All the respondent service providers are practicing competitive pricing. An overwhelming majority of the respondent service providers are using brand building and mass customization and personalization of service approach as ways to create

switching barriers. A few of the respondent service providers indicated that they have implemented loyalty programmes.

In light of the results of the empirical analysis of this study it is evident that the current switching barriers implemented by the respondent service providers are not sufficient and effective. Therefore, the service providers need to be more innovative and creative in creating them, to reduce rate of customer defection.

Ingredients for Effective Customer Retention Strategy

This section summarizes the results of the measurement of cellular service quality. The conclusions of this analysis provide essential constituents that need to be included in an effective customer retention strategy.

- **Derived Cellular Service Quality Factors** – Based on the exploratory factor analysis, six factors were deduced out of 26 service quality attributes rated by the respondent customers. The Reliability, KMO test and Bartlett's test of sphericity confirmed that this solution was statistically significant (refer *Appendix 1 – Factor Analysis Results*). The six factors were named based on the characteristic of the service quality attributes they represented. Thus, they were identified as 'Service promotion and communication', 'Service support', 'Network Service', 'Service outlet', 'Service billing and payment', and 'Service bundling and pricing' (refer *Appendix 2 – Six Service Quality Factors And Their Related Service Quality Attributes*).
- **Relationship between Service Quality, Customer Satisfaction, and Behaviour Intentions** – The established principles in service marketing literature that, higher service quality leads to higher satisfaction, and higher satisfaction leads to lower intention to switch and higher intention to recommend, were tested using three different hypotheses, using the respondent customers' data. The results of the Regression, Correlation and Gamma test carried out for hypotheses testing, statistically established these relationships to be true in the context of the Indian cellular service industry

(refer Appendix 3 – Hypothesis Testing Results). Figure 3, encapsulates the relationship established through the acceptance of the three hypotheses. The acceptance of the three hypotheses establishes the applicability of these relationships also in context of the Indian cellular service industry. These results are also in line with that of other researchers who reached to similar conclusions in their study of specific cellular market (Gerpott et al., 2001; Lee et al. 2001).

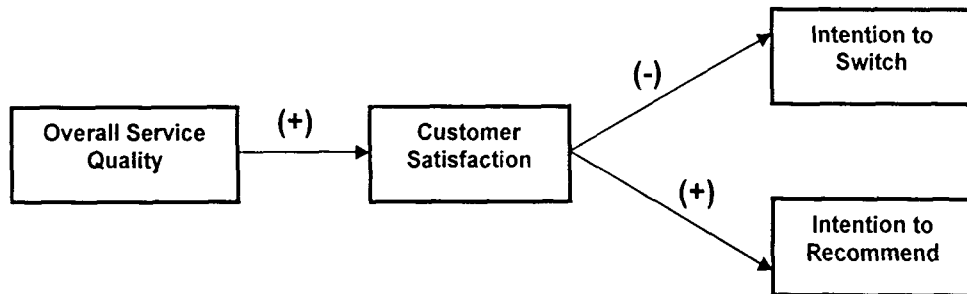


Fig. 3 Hypotheses Results (Variables and their Interrelationship)

The relationships established above, give a very strong direction to the cellular service providers for building effective customer retention strategies. Constant delivery of high service quality and superior customer satisfaction should be the essential components of such a strategy. Relentless efforts to raise the perception of service quality, will lead to enhanced customer satisfaction. Consequently satisfied subscribers will have a lower switching intention. These customers will not only be loyal but also work as internal marketer for the service providers in spreading the positive-word-of-mouth and recommending them to others.

- **Factors Influencing Customer Satisfaction and Intention to Switch –** Regression Analysis between variables, service quality factors and customer satisfaction, statistically established that all the six factors influence customer satisfaction.

Similarly, analysis between service quality factors and intention to switch was performed using Canonical Discriminant analysis (refer Appendix 4 – Factors Influencing Customer Satisfaction and Intention to Switch). This test

established that four service quality factors, including 'Network Service', 'Service Pricing and Bundling', 'Service Promotion and Communication', and 'Service Support' are the determinants of customer switching behaviour.

For both, customer satisfaction, and switching intention, the service quality factor of 'Network Service' was found to be most influential factor. The prominence of this factor, which primarily deals with cellular network service, establishes the fact that the service providers need to concentrate on improving this dimension as the most important constituent of customer retention strategy. Other researchers such as Woo and Fock (1999), Kim and Yoon (2004) also reached similar conclusion.

- **Re-examine the Areas of Service Improvement** – The Importance–Performance Analysis (IPA) revealed that the service providers need to assign priorities to the areas of service improvement based on the importance and performance perceived by the respondent customers on different aspects of cellular service (*refer Appendix 5 – Summary of IPA Analysis*). Out of 26 service quality attributes, eleven attributes were identified in the 'Low-Performance, High-Importance' quadrant, thus signifying areas of immediate attention. Eleven other service quality attributes appeared in the 'High-Importance, High-Performance' quadrant of IPA. These represent the areas of service providers' strength. Therefore, the service providers need to maintain and strive for higher performance in these areas.
- **Monitoring the Perceptual Gap between Service Providers and Service Users** – The perceptual gap between the respondent service providers' and the respondent customers showed variation for both importance and performance of cellular service being delivered. This variation indicates that the service providers need to constantly monitor and measure the perception of their customers, in order to identify the right areas of service improvement and priorities. While designing the customer retention strategies, the service providers need to take into consideration these gaps, and minimise them.

Implications and Recommendations

The Indian cellular service industry is changing and so is the environment around it. The dynamics of Indian cellular service industry points towards explosive cellular growth, rising customer switching behaviour and mounting significance of customer retention. The findings of this study ascertain this reality and conclude that the service providers need to adopt the right customer retention measures in order to achieve higher customer allegiance. The service providers who will take the first leap in implementing the right framework for customer retention strategies would be able to create the much required service experience differential and will gain competitive leadership.

Suggestions for Service Providers

Even though, the service providers have implemented a retention framework, not all the measures are delivering the desired results. This section presents, recommendations for the service providers, to help them design a holistic, multi-pronged strategic approach, based on the findings of this study.

- **Orientation of the Customer Retention Strategy** – The orientation of the customer retention strategy framework needs to encompass the following components: –
 - Deliver high service quality and superior customer satisfaction at all points of service interaction. Excellence in core service delivery, i.e. the network communication capability should be superior.
 - Develop a good understanding of the customer's perception of performance and then, identify the areas of service improvement.
 - Localize the customer retention strategies, keeping in mind the different geographical needs, behaviour, expectations, usage pattern, level of maturity, service requirements, and issues of dissatisfaction.
 - Constitute the right mix of customer retention measures, in the customer retention strategy framework, appropriate weightage should be given to service improvement, churn management measures, adoption of new technologies, and managing relationships with their customers.

- Adopt customer retention as a corporate philosophy and build customer culture within the organization. The underlying principle should be to understand, create and foster relationship with the customers.
- Adopt customer defection rate and retention success rate as the key performance evaluation criteria for corporate performance.
- **Develop a better understanding of Customer Expectations** – Customers are the driving force for every service provider. Meeting the customers' expectations is not an option, but essential for attaining competitive success and high customer loyalty. Different segments of market have different requirements and expectations. The service providers need to adopt appropriate mechanism to understand these diverse expectations and implement retention strategies in appropriate priorities.
- **Pursue a Path of Constant Innovation** – To survive and prosper, the cellular service providers need to constantly innovate themselves as forward-thinking organization. This process of innovation should be focused on new products, improving service delivery, pricing and promotion. It should also focus on finding new ways to deliver higher customer value and excellence in every customer service interaction. The key principle of the innovation should be to build a customer service environment that will engender loyalty, better customer relationship and profitable customer retention. Service providers also need to extend the scope of innovation to improve the internal processes and optimise them for higher efficiency and productivity.
- **Emphasize on Enterprise-wide CRM strategy** – Implementation of a full fledged, enterprise-wide CRM strategy, will help the service providers to achieve better customer retention results. An effective CRM strategy will ensure that the service providers' efforts of customer retention are integrated and optimized, giving them an opportunity to understand, create and foster closer relationship with their customers. The service providers thus, would be able to tap every customer interaction as an opportunity to win loyalty and provide outstanding service at all the touch points.

- **Retention Focus based on Customer Lifetime Value** – Effective retention means retaining the right customers, and not every customer (Payne & Frow, 1997). The customer lifetime value assessment can help the service providers to create effective segmentation of their customer base. Accurately analyzing lifetime value is important for the service providers to ensure that their retention actions are focused on the customers with the highest lifetime value.
- **Adopt More Effective Churn Prediction Models/Techniques** – Currently, the churn prediction models adopted by the service providers are inadequate. They need to employ data mining techniques and advanced statistical packages to predict churn accurately. Larivière & Poel, (2005) advocated the use of advanced statistical methods such as logistic regression, artificial neural networks and random forest to develop comprehensive churn prediction models. More parameters, such as usage pattern, satisfaction level, service preference, customer complaints and competitors' information need to be used to increase the predictive accuracy of the churn models employed.
- **Guarantee Core Service Delivery** – Delivery of the core service is the most critical component for customer satisfaction and loyalty. Its non-delivery acts as a detriment to the customer's confidence in the service provider and has a strong stimulus to the switching intention of the customer. Seamless availability of network, superior call quality, wide range of coverage, extensive roaming capability, and high availability and performance of Value-Added-Services need to be service guaranteed by the service providers.
- **Convergent Bundling of Services** – Most of the cellular service operators now have other portfolio of communication platforms, such as fixed-line, Broadband services, Internet and Virtual Private Network (VPN). A good switching barrier is to bundle all such services into a common bundle and offer them as a 'one umbrella solution'. The combined portfolio of services, thereby facilitating single window for service support, upgrades, technical solutions and complaint handling will ensure service differential, increased wallet share, and customer allegiance.

- **Give Multi-Connections Discount Offers** – Another way to create good switching barrier is by giving multi-connection discount offers and convergence of prepaid and post-paid service. Today, each household and business has multiple connections and diverse cellular consumption requirements. With such offers, the customers will have the flexibility to choose their portfolio of service according to their requirements and will be reluctant to defect.

Suggested Framework for Measuring and Monitoring Cellular Service

To be able to earn customer satisfaction and loyalty, the service providers need to build mechanisms to monitor and control the perceived quality of service being delivered at all the points of service encounter. Figure 4, illustrates such a framework for post-paid cellular service user, conceptualized on the basis of six service quality factors identified in this study.

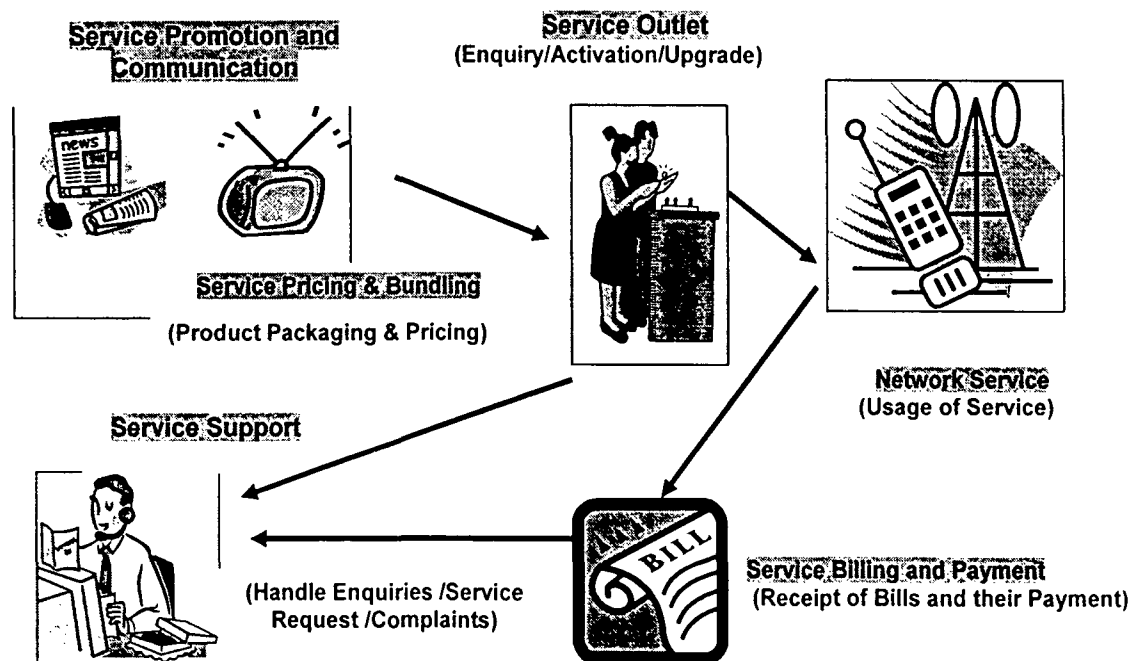


Fig. 4 Suggested Framework for Measuring and Monitoring Cellular Service Quality

The six service quality factors represent the points of service encounter or the 'moment of truth', for post-paid cellular service user. Experience at each of these points contributes in building customer satisfaction and relationship, or accumulates dissatisfaction and customer defection.

For service providers, this model provides an overall goal, to be able to monitor service quality delivered and level of customer satisfaction derived. To avoid customer defection, the service providers need to proactively explore in-depth service failures at these moments of truth. Constant monitoring of performance of service delivery and customer satisfaction will also help the service providers to build early-warning customer dissatisfaction alert systems.

Adopting above approach will not only help the service providers to identify the priority areas of service improvement, but also assist them to constantly refine and upgrade their service assurance standards. The input of this analysis will also help them to constantly realign their retention strategies to maximize customer satisfaction, loyalty and profitability.

Suggestions for Policy Makers

Entities such as department of Telecommunication, Ministry of Communication and the Telecom Regulatory Authority of India need to play an active role in propagating high service quality standards and ensuring their enforcement. Three areas of improvement were identified in their scope of activities, which will encourage the development of a better cellular service environment. Firstly, the current Quality of Service (QOS) parameters implemented by the TRAI need to be enhanced. The parameters should cover all service interface points where the customer interacts. Additional factors such as, performance of Value-Added-Services, delivery of service support function, service bundling and pricing, functioning of self-service modules and the performance of handsets, should be included. As part of the QOS report the service providers should also be asked to provide their churn figures. By extending the scope of the QOS report, the service providers will be forced to deliver higher quality of service and customer satisfaction. Secondly, in view of the current dynamics and status of the cellular market, the National Telecom Policy needs to be revised. The overall theme of the new National Telecom Policy needs to be customer centric and it also needs to address some of the outstanding demands of both, the customers and the service providers. Thirdly, like the American and European Customer Satisfaction Index, TRAI should also develop a satisfaction index for cellular

service. This will make the operators more accountable for the service quality being delivered and the customer will benefit.

Areas for Future Research

The distinctive aspects of this empirical study re-confirm many of the service quality principles established across other service industries and the cellular service industry in particular. This study, also establishes the applicability of service quality delivery into the dimension of effective customer retention strategies. Even though the study has been done in the background of Indian market, the methodology and the findings are broadly applicable across any other cellular market. Further, the 26 service quality attributes developed during this study, initiate a process, whereby a service quality measurement model specifically focusing on post-paid cellular service industry can be standardized.

This study has its own limitations, based on which, four areas of future research have been identified. First, with change in the cellular services and service delivery process, a more exhaustive list of service quality attributes needs to be prepared. The proposed study model needs to be tested and refined. Second, in this study, the prepaid service users were not covered. Since the majority of Indian cellular customers use prepaid service, it is an important area of unexplored research. Third, using the approach of this study, customer surveys could be conducted in different geographical parts of India or other global cellular markets, so as to further refine the cellular service quality framework, derived in this study. Such a study will help the service providers to design effective strategies keeping regional/local issues in mind. Fourth, this study did not cover the financial consequences of churn and loyalty. A study such as this would help to understand the impact of the switching behaviour in more detail.

BIBLIOGRAPHY

- Aydin Serkan & Gokhan Ozer (2005). The analysis of antecedents of customer loyalty in the Turkish mobile telecommunication market. *European Journal of Marketing*, 39 (7), 910-925.
- CellularNews. (2003). Retrieved Jan 2005 from <http://india-cellular.com/News-July-Sept-2003.html>
- Desatnick, R. L. (1988). Managing to Keep Customer. Houghton Mifflin, MA, Boston.
- File, Karen Maru & Prince Russ Alan (1994). Predicting Professional Service Retention. *Journal of Professional Services Marketing*, 11 (1), 5-20.
- Gerpott, Torsten J., Rams Wolfgang & Schindler Andreas. (2001). Customer retention, loyalty, and satisfaction in the German mobile cellular telecommunications market. *Telecommunications Policy*, 25 (4), May, 249-269.
- Kim Hee-Su & Yoon Choong-Han. (2004). Determinants of subscriber churn and customer loyalty in the Korean mobile telephony market. *Telecommunications Policy*, 28 (9-10), October-November, 751-765.
- Kim Moon-Koo, Park Myeong-Cheol & Jeong Dong-Heon. (2004). The effects of customer satisfaction and switching barrier on customer loyalty in Korean mobile telecommunication services. *Telecommunication Policy*, 28, 145-159.
- Larivière, B., & Poel, D. Van den. (2005). Predicting customer retention and profitability by using random forest and regression forests techniques. *Expert Systems with Applications*, 29 (2), 472-484.
- Lee, Jonathan, Lee, Janghyuk & Lawrence Feick (2001). The impact of switching costs on the customer satisfaction-loyalty link: Mobile phone service in France. *Journal of Services Marketing*, 15 (1), 35-48.
- Payne, A., & Frow, P. (1997). Relationship Marketing: Key Issues for the Utilities Sector. *Journal of Marketing Management*, 13(5), 463-477.
- Poel Van den, D., & Larivière, B. (2004). Customer Attrition Analysis for Financial Services – Using Proportional Hazard Models. *European Journal of Operational Research*, 157 (1), 196-217.
- Ramachandran, T. V. S. (2004). Presentation made by the chairman of COAI in Singapore. Retrieved Feb 2005, from <http://www.coai.com/>
- Reichheld, Frederick. F., & Sasser, W. E. Jr. (1990). Zero defections: Quality comes to services. *Harvard Business Review*, Sep-Oct, 105-111.
- Rust, R. T., & Zahorik, Anthony J. (1993). Customer satisfaction, customer retention, and market share. *Journal of Retailing*, 69, Summer, 193-215.
- Shoemaker Stowe & Lewis Robert C. (1999). Customer loyalty: the future of hospitality marketing. *International Journal of Hospitality Management*, 18 (4), December, 345-370.
- TRAI. (2005a). Growth in telephony continues in April 2005, subscriber base exceeds 100 million. Press release No. 42/2005. Retrieved Apr 2005, from <http://www.trai.gov.in/pr9may05.pdf>
- TRAI. (2005b). Indicators for telecom growth. Study Paper No. 2/2005. Retrieved Apr 2005, from <http://www.trai.gov.in/ir30June.pdf>
- Voice & Data. (2005). Triple play: Growth, expansion, and profit. *Voice & Data*, 12 (1), July, 38-48.
- Woo Ka-Shing, Fock K. Y. Henry (1999). Customer satisfaction in the Hong Kong mobile phone industry. *The Service Industries Journal*, 19 (3), 162-174.

APPENDICES

Appendix 1 – Factor Analysis Results

Factors	SQ Attribute	Mean	S.D.	F1	F 2	F 3	F 4	F 5	F 6	Comm-onality
Service Promotion and Communi-cation	SQ5	4.64	1.50	0.820						0.491
	SQ4	4.85	1.32	0.747						0.596
	SQ3	5.01	1.38	0.691						0.623
	SQ6	5.00	1.43	0.623						0.666
	SQ2	4.72	1.37	0.600						0.721
	SQ1	5.08	1.22	0.433						0.569
Service Support	SQ20	5.14	1.32		0.716					0.518
	SQ23	4.90	1.30		0.692					0.583
	SQ22	4.83	1.23		0.689					0.615
	SQ19	4.79	1.45		0.672					0.593
	SQ21	4.82	1.40		0.623					0.690
	SQ24	5.29	1.24		0.573					0.588
Network Service	SQ11	4.88	1.56			0.807				0.684
	SQ13	4.86	1.52			0.786				0.509
	SQ12	5.15	1.30			0.715				0.491
	SQ14	5.10	1.36			0.590				0.661
	SQ15	5.04	1.29			0.546				0.720
Service Outlet and Delivery	SQ10	5.11	1.40				0.686			0.624
	SQ9	4.89	1.30				0.543			0.566
	SQ7	5.50	1.31				0.528			0.675
	SQ8	4.94	1.34				0.523			0.612
Service Billing And Payment	SQ17	5.29	1.36					0.773		0.655
	SQ16	5.06	1.50					0.747		0.659
	SQ18	5.40	1.31					0.598		0.588
Service Bundling And Pricing	SQ26	5.11	1.27						0.783	0.769
	SQ25	5.07	1.23						0.738	0.765
Eigen Value				3.62	3.34	3.18	2.35	2.00	1.71	
Total variance explained	% of variance			13.95	12.85	12.23	9.05	7.72	6.590	
	cumulative % of variance			13.95	26.81	39.05	48.10	55.83	62.42	
Number of attributes in each factor				6	6	5	4	3	2	
Standardized Cronbach's alpha				0.847	0.852	0.781	0.751	0.711	0.786	
Reliability Statistics – For Factor Analysis										
Cronbach's Alpha			Cronbach's Alpha Based on Standardized Items				No. of Items			
0.923			0.926				26			
Kaiser–Meyer–Olkin (KMO) - 0.926										
Bartlett test of sphericity - 6,284.73 Significant at the 0.05 level										

Appendix 2 – Six Service Quality Factors and Their Related Service Quality Attributes

Factor Description	SQID	Service Quality Attribute Description
Factor 1: Service Promotion and Communication – This factor relates to advertisement and sales promotion activities of the service provider including brand building and customer relationship. (Marketing mix component represented: 'Promotion')	SQ5	Provider gives complete and correct information about products and services
	SQ4	Provider gives attractive sales promotion schemes as compared to competitors
	SQ3	Provider keeps you well-informed about sales promotion schemes
	SQ6	Advertisements are effective in purchase decision
	SQ2	Provider strives for building relationship and is committed to subscriber needs
	SQ1	Provider with high reputation
Factor 2: Service Support – This factor is associated with the customer care and support for cellular service provided by the service provider. (Marketing mix component represented: 'People' / 'Process')	SQ20	Politeness and courteousness of the service staff
	SQ23	Service Support staff have sufficient knowledge
	SQ22	Service support staff show real interest in solving problems
	SQ19	Ease of getting through to customer care centre
	SQ21	Whenever something is promised it happens in a certain time
	SQ24	Provider keeps accurate records
Factor 3: Network Service – This factor is representative of the core service (voice communication) and other VAS, provided to the cellular service user. (Marketing mix component represented: 'Product')	SQ11	Network availability
	SQ13	Quality and clarity of voice
	SQ12	Range of coverage
	SQ14	Availability of roaming service
	SQ15	Availability and performance of VAS
Factor 4: Service Outlet – This factor represents the service intermediaries (Dealers/Retailers) and their sales support staff, who service the cellular service user. (Marketing mix component represented: 'Place'/'Physical Evidence'/'Process')	SQ10	Process for getting subscription and termination
	SQ9	Promptness, courteousness of the sales person
	SQ7	Ease of locating dealer/retailer
	SQ8	Ability of retailer to provide complete information on tariff plans and service packages
Factor 5: Service Billing and Payment – This factor relates to the bills received by the cellular service users at the end of the month, and its payment. (Marketing mix component represented: 'Process')	SQ17	Ease of reading and understanding the bill
	SQ16	Accuracy of billing
	SQ18	Ease of accessing payment location
Factor 6: Service Bundling and Pricing – This factor is linked to the packaging and pricing of the cellular services being offered. (Marketing mix component represented: 'Price')	SQ26	Appropriateness of pricing
	SQ25	Appropriateness of tariff plans and service packages

Appendix 3 – Hypotheses Testing Results

Regression Analysis between Customer Satisfaction and Overall Service Quality (Hypothesis – H1)		
Dependent Variable	Customer Satisfaction	
Independent Variable	Overall Service Quality	
R square	0.712	
ANOVA	F-value	1341.5
	P-value	0.000(a)
Regression Coefficient	Constant	0.497
	Beta	0.844
	P-value for Beta	0.000

Symmetric Measures: Customer Satisfaction and Intention to Switch (Hypothesis – H2)		
Variables	Gamma Value	Approx. Sig.
customer satisfaction and intention to switch (**Significance at 1%)	-0.602	0.000**
overall service quality and intention to switch (** Significance at 1%)	- 0.574	0.000**

Symmetric Measures: Customer Satisfaction and Intention to Recommend (Hypothesis – H3)		
Variables	Gamma Value	Approx. Sig.
customer satisfaction and intention to recommend (**Significance at 1%)	.678	.000**

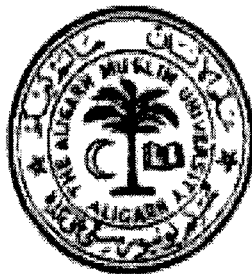
Appendix 4 – Factors Influencing Customer Satisfaction and Intention to Switch

Regression Analysis Service Quality Factors and Customer Satisfaction	
R-square (adj.) - 0.531^a	Sig. (p-value) - 0.000
Independent Variable	(t statistics) **Signifies level of significance at .000, ^a Dependent Variable: Customer Satisfaction
Factor 3: Network Service	9.191**
Factor 1: Service Promotion and Communication	7.409**
Factor 5: Service Billing and Payment	4.858**
Factor 6 : Service Bundling and Pricing	4.633**
Factor 2 : Service Support	4.145**
Factor 4 : Service Outlet	4.014**

Summary of Canonical Discriminant Functions (Service Quality Factors and Intention to Switch)		
Service Quality Factor	Standardized Discriminant Function Coefficient	Value of the Discriminant Function (Structure Matrix)
Network Service	0.762**	.717
Service Pricing and Bundling	0.486**	.439
Service Promotion and Communication	0.413**	.370
Service Support	0.314**	.297

Appendix 5 – Summary of the IPA Analysis

<p style="text-align: center;">Quadrant I – Service Quality Attributes: Description (Performance Mean, Importance Mean) (Areas, that require immediate attention)</p>
<ul style="list-style-type: none"> • SQ11: Network availability (4.88, 6.33) • SQ13: Range of the cellular coverage (4.86, 6.28) • SQ19: Ease of getting through to the customer service centre/helpline (4.79, 5.97) • SQ21: Whenever something is promised to be done by a certain time, it is done (4.82, 5.98) • SQ22: The service support staff show sincere interest in solving queries/problems (4.83, 5.99) • SQ23: Service support staff has sufficient knowledge and are efficient in resolving queries / complaints (4.90, 5.99) • SQ2 : Provider strives for building relationship with its subscribers and is committed to their needs (4.72, 5.98) • SQ4 : Attractive sales promotion schemes launched as compared to the competitors (4.85, 5.65) • SQ5 : Provider keeps you well informed about sales promotion schemes (4.64, 5.59) • SQ3 : Provider provides complete and true information about products and services (5.01, 5.99) • SQ6 : Advertisements are effective in purchase decision (5.00, 5.99)
<p style="text-align: center;">Quadrant II – Service Quality Attributes: Description (Performance Mean, Importance Mean) (Areas, wherein the performance needs to be maintained)</p>
<ul style="list-style-type: none"> • SQ12: Quality and clarity of voice (5.15, 6.3) • SQ14: Roaming service (5.10, 6.04) • SQ15: Availability and Performance of VAS (5.04, 6.01) • SQ16: Billing accuracy (5.06, 6.22) • SQ17: Ease of reading and understanding the bill (5.29, 6.09) • SQ20: Politeness, courteousness of the service staff (5.14, 6.01) • SQ24: Provider maintains accurate data records of all transactions (5.29, 6.03) • SQ25: Appropriateness of tariff plans and service packages (5.07, 5.99) • SQ18: Ease of accessing payment location (5.40, 6.08) • SQ26: Appropriateness of pricing (5.11, 6.14) • SQ1 : Provider with a high reputation, professional outlook and brand image (5.08, 6.04)
<p style="text-align: center;">Quadrant III – Service Quality Attributes: Description (Performance Mean, Importance Mean) (Realign Strategy)</p>
<ul style="list-style-type: none"> • SQ 7 : Ease of locating a dealer/retailer (5.50, 5.94) • SQ10: Convenience of getting subscription/termination/change in subscription (5.11, 5.89)
<p style="text-align: center;">Quadrant IV – Service Quality Attributes: Description (Performance Mean, Importance Mean) (Realign Strategy)</p>
<ul style="list-style-type: none"> • SQ8: Dealers/Retailers provide complete information on tariff plans, products and services (4.94, 5.25) • SQ9: Promptness, courteousness of the salesperson at the dealer/retailer (4.89, 5.20)



CUSTOMER RETENTION STRATEGIES FOR INDIAN CELLULAR SERVICE INDUSTRY

THESIS

SUBMITTED TO ALIGARH MUSLIM UNIVERSITY FOR THE
AWARD OF DEGREE OF

**DOCTORATE
IN
BUSINESS ADMINISTRATION**

By

SANJAY BHATIA

Under the Supervision of

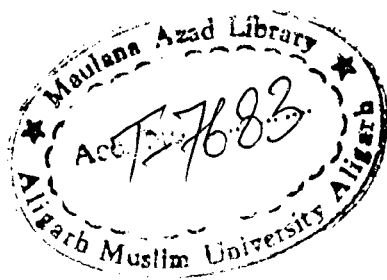
Prof. Kaleem Mohd. Khan
Dean & Chairman
Department of Business Administration
Aligarh Muslim University
Aligarh – 202002.
Internal Supervisor

Prof. Vijay Kumar Kaul
Head
Department of Business Economics
University of Delhi, South Campus
New Delhi – 110 021.
External Supervisor

DEPARTMENT OF BUSINESS ADMINISTRATION
FACULTY OF MANAGEMENT STUDIES & RESEARCH
ALIGARH MUSLIM UNIVERSITY
ALIGARH – 202002
INDIA



2005



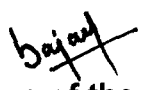
T7683

DECLARATION

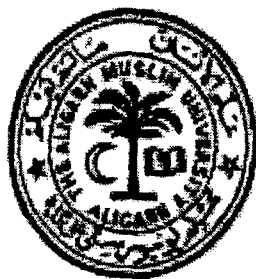
I do hereby declare that the thesis titled '**CUSTOMER RETENTION STRATEGIES FOR INDIAN CELLULAR SERVICE INDUSTRY**', submitted to the Faculty of Management Studies and Research, Aligarh Muslim University, Aligarh for the Degree of DOCTORATE IN BUSINESS ADMINISTRATION, is a record of original work done by me under the supervision and guidance of **PROF. KALEEM MOHAMMED KHAN**, Dean & Chairman, Faculty of Management Studies and Research, Aligarh Muslim University (Internal Supervisor), and **PROF. VIJAY KUMAR KAUL**, Head, Department of Business Economics University of Delhi South Campus (External Supervisor) and it has not, previously formed the basis for the award of any degree, diploma, associateship, fellowship or other similar title to any candidate of any University.

Place: New Delhi

Date :


Signature of the Candidate

SANJAY BHATIA

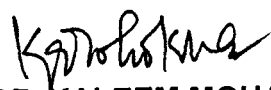


CERTIFICATE

This is to certify that the thesis titled '**CUSTOMER RETENTION STRATEGIES FOR INDIAN CELLULAR SERVICE INDUSTRY**', submitted to the Aligarh Muslim University in partial fulfilment of the requirements for the award of the degree of **DOCTORATE IN BUSINESS ADMINISTRATION**, is a record of original research work done by Mr. SANJAY BHATIA during the period of his study in the Department of Business Administration, Faculty of Management Studies & Research, Aligarh Muslim University, under my supervision and guidance. This thesis has not formed the basis for the award of any degree, diploma, associateship, fellowship or similar title to any candidate of any University.

Place : Aligarh

Date :


PROF. KALEEM MOHAMMED KHAN
Internal Supervisor

CERTIFICATE

This is to certify that the thesis titled '**CUSTOMER RETENTION STRATEGIES FOR INDIAN CELLULAR SERVICE INDUSTRY**', submitted to the Aligarh Muslim University in partial fulfilment of the requirements for the award of the degree of **DOCTORATE IN BUSINESS ADMINISTRATION**, is a record of original research work done by **Mr. SANJAY BHATIA** during the period of his study in the Department of Business Administration, Faculty of Management Studies & Research, Aligarh Muslim University, under my supervision and guidance. This thesis has not formed the basis for the award of any degree, diploma, associateship, fellowship or similar title to any candidate of any University.



Place : New Delhi

Date :

PROF. VIJAY KUMAR KAUL

External Supervisor

ACKNOWLEDGEMENTS

This study was done under the supervision of Prof. Kaleem Mohd. Khan (Dean & Chairman, Department of Business Administration, AMU) and Dr. Vijay Kumar Kaul (Head, Department of Business Economics, University of Delhi South Campus). I deem it my privilege to acknowledge the help and encouragement given by both the distinguished supervisors. Their extensive experience and knowledge helped me at every stage of research. At critical moments, both showed keen interests in resolving the obstacles and always provided a constant motivation to boost my morale. I feel that words are not sufficient to express their bestowal.

I express my gratitude to Prof. Surendra Kumar (formerly Programme Director, AIMA) and Dr. Gayatri Mittal of University of Delhi for their academic input and constant support and inspiration. Thanks are also due to Prof. C. P Gupta (Management Development Institute) and Dr. D. Goswami (University of Delhi) for their guidance in empirical analysis. I record my sincere thanks to the people who helped me during data compilation and review of the document Mr. Shiv Kumar Rawat, Mr. Rajesh Kumar and Ms. Sabeeha Pandya.

I am also thankful to the library staff of Ratan Tata, South Campus, FMS, British Council and MDI, who always has been helpful in providing material that I needed.

This study could not have been possible without the sacrifices and support of my family. My parents and parents-in-law were a constant source of encouragement for me. I owe special thanks to my wife, Hema whose support and understanding created an ideal environment, making this research possible. She was always with me when it mattered the most. I am also indebted to my children, Sahil and Kunal, to whom I could not devote time because of my involvement in the research work.

I DEDICATE THIS WORK

TO MY PARENTS

THEIR INSPIRATION, LOVE AND SUPPORT

HAS MADE THIS WORK POSSIBLE

PREFACE

Today, the service industry in India plays a key role in its vibrant economic growth. Among various service industries, the cellular service industry has outshined all expectations in this regard. I feel fortunate to have witnessed this revolution, where cellular phones have transformed from a luxury commodity for classes to a utility for masses. The Indian cellular industry saga started in 1995 and over the last decade, it has transformed people's lives and contributed to the socio-economic development. With over 50 million subscribers, Indian cellular market is one of the largest and fastest growing cellular markets in the world. In this period of explosive growth, the industry is also experiencing one of the highest customer churn rate in the South-East Asian region. The issue of retaining customers has acquired strategic importance for the Indian cellular service industry, because of rising churn rate, reducing profit margins and growing competition.

The battle for greater market share is brewing within the Indian cellular service providers, as it is getting more competitive. Each service provider is bidding for more customers by offering highly competitive packages. The Indian cellular subscriber today, has more choices, awareness, expectations and does not hesitate to switch to another service provider for superior quality, latest fad or a better deal. In the last few years the focus of the service providers was on gaining greater market share, but not enough has been done to enhance service quality and satisfaction of existing customers, thus contributing to the high rate of customer defection.

My inspiration for this topic for research came from two main reasons. First, in my experience of six years as cellular service user, I encountered the lack of the service quality. Consequently, with better options available, I switched my providers thrice, in a quest for better service. Second, my exposure as a telecom professional, in the US, European and South-East Asian cellular markets, during

which I noticed that high growth and increasing churn rate is a global phenomenon in the industry. Moreover, there is a rising concern among the service providers as to how to retain their customers more effectively. As cellular markets are becoming increasingly competitive and price sensitive, marketing budgets are being restructured to devote more resources to defensive marketing, i.e. customer retention. When mobile number portability, was implemented in US, and European markets, I witnessed great concern and special efforts on part of the service providers to improve their services and erect new switching barriers, so as to minimize their losses due to mass customer defection.

The above reasons motivated me to explore the subject of customer retention within the cellular industry in the Indian context. The aim of this study is to gain a better understanding of the switching behaviour of the customers and customer retention practices of their service providers, which hitherto have been subject to limited research. To gain a holistic understanding of the subject, this study examines both the customers and their service providers. Based on this insight, the study suggests, how the current retention efforts of the cellular service providers can be augmented, keeping in view the competitive demands of today and the challenges to come in future.

In the service marketing literature, the measurement of service quality has been emphasised. During this study, a model for measuring cellular service quality was developed and tested. Based on its results, a framework for measuring and monitoring cellular service quality has been proposed.

Several researchers have established the fact that higher service quality leads to higher customer satisfaction, which in turn leads to lower intention to switch and higher intention to recommend. This study ascertains the applicability of this premise in the Indian cellular service context. Thus, the service providers should adopt a customer retention strategy framework, which ensures delivery of high service quality and superior customer satisfaction at all points of service

encounter. The cellular service providers need to constantly assess areas of service improvement and areas where they can create service differential better than their competitors. Priority needs to be given to areas of service enhancement, which are the determinants of customer satisfaction and intention to switch. Among all factors, the delivery of core service – i.e. 'ability to make and received calls' was found to be most critical.

The study found that over the last few years, the service providers have gradually moved from a reactive to a proactive customer retention culture within their organization. As part of the approach they have adopted several measures in this direction. However, this study, found that these measures are inadequate and have a large scope of improvements. Based on this analysis, the study suggests how the service providers can fill these gaps and adopt a holistic customer retention framework to handle churn and achieve higher customer loyalty.

Indian cellular service industry is one of the critical infrastructure stimulant required for India's economic growth and nation-wide connectivity. Growing at a rate of 85 per cent, since 1999, it is poised to cross 180 million by 2008. With the vast expanse of the nation still untouched, the real growth revolution is yet to come. The service providers need to better prepare themselves for this paradigm. The future of the industry will become more competitive and challenging. The market will be driven by further deregulations, availability of cheaper technologies and customer friendly facilities like mobile number portability. Thus, to ensure survival, growth and profitability, the service providers need to adopt retention framework, which is based on proactive service improvement measures, innovation, and customer centric approach. This will help them to achieve stronger, profitable and long-term customer relationships based on higher customer satisfaction. It is evident from this study that, the service providers who will take a lead in implementing the right retention framework will be able to create the much required service differential and competitive advantage.

LIST OF FIGURES

FIG. 1-1 WORLD CELLULAR SUBSCRIBER GROWTH	5
FIG. 1-2 TELECOM GROWTH IN INDIA	8
FIG. 2-1 RESEARCH APPROACH ADOPTED FOR THIS STUDY	42
FIG. 2-2 STUDY MODEL ADOPTED FOR THIS STUDY	44
FIG. 3-1 DISTRIBUTION OF RESPONDENTS BY LOCATION	64
FIG. 3-2 DISTRIBUTION OF THE RESPONDENTS BY AGE	66
FIG. 3-3 DISTRIBUTION OF RESPONDENTS BY OCCUPATION	66
FIG. 3-4 DISTRIBUTION OF RESPONDENTS BY EDUCATION LEVEL	67
FIG. 3-5 DISTRIBUTION OF RESPONDENTS BY AVERAGE BILL PER MONTH	68
FIG. 4-1 INDIAN CELLULAR SUBSCRIBER GROWTH VS. ARPU (FY 2000 – FY 2005)	78
FIG. 4-2 REASONS FOR CHURN, (RESPONDENT SERVICE PROVIDER'S VIEW).....	85
FIG. 4-3 VOLUNTARY CHURN: PROCESS FLOW.....	86
FIG. 4-4 INVOLUNTARY CHURN: PROCESS FLOW.....	88
FIG. 4-5 DISTRIBUTION OF CHURN PREDICTION MEASURES	90
FIG. 4-6 DISTRIBUTION OF BUSINESS IMPROVEMENT MEASURES.....	93
FIG. 4-7 DISTRIBUTION OF INFRASTRUCTURE IMPROVEMENT MEASURES	101
FIG. 4-8 DISTRIBUTION OF SWITCHING BARRIER MEASURES	105
FIG. 5-1 PHASES OF CELLULAR GROWTH IN INDIA	114
FIG. 5-2 REASONS FOR CHURN (RESPONDENT CUSTOMER'S VIEW)	120
FIG. 5-3 REASONS FOR INTENTION TO SWITCH (RESPONDENT CUSTOMER'S VIEW).....	123
FIG. 5-4 REASONS FOR INTENTION NOT TO SWITCH (RESPONDENT CUSTOMER'S VIEW)	125
FIG. 5-5 DID CHANGE VS. WILL CHANGE MATRIX	127
FIG. 5-6 CUSTOMER SATISFACTION-LOYALTY MATRIX	129
FIG. 6-1 HYPOTHESES RESULTS (VARIABLES AND THEIR INTERRELATIONSHIPS)	149
FIG. 6-2 IMPORTANCE-PERFORMANCE MATRIX.....	153
FIG. 7-1 FRAMEWORK FOR MEASURING AND MONITORING CELLULAR SERVICE QUALITY	190

LIST OF TABLES

TABLE 1-1 INDIAN CELLULAR GROWTH: GSM VS. CDMA	9
TABLE 2-1 FIVE DIMENSIONS OF SERVQUAL MODEL.....	26
TABLE 2-2 RETENTION STRATEGIES BY BERRY AND PARASURAMAN.....	35
TABLE 3-1 LIST OF CELLULAR SERVICE QUALITY ATTRIBUTES.....	53
TABLE 3-2 PROFILE OF RESPONDENT CELLULAR SERVICE PROVIDERS	63
TABLE 3-3 DISTRIBUTION OF RESPONDENTS BY REVENUE GROWTH.....	63
TABLE 3-4 DISTRIBUTION OF RESPONDENTS BY SERVICE PROVIDER	65
TABLE 3-5 DISTRIBUTION OF RESPONDENTS BY CATEGORY	65
TABLE 3-6 DISTRIBUTION OF RESPONDENTS BY GENDER.....	66
TABLE 3-7 DISTRIBUTION OF RESPONDENTS BY MONTHLY HOUSEHOLD INCOME.....	67
TABLE 3-8 DISTRIBUTION BY PURPOSE OF USAGE	68
TABLE 4-1 IN-VOLUNTARY VS. VOLUNTARY CHURN.....	84
TABLE 4-2 SUMMARY OF THE CHURN PREDICTION MEASURES	91
TABLE 4-3 SUMMARY OF BUSINESS PROCESS IMPROVEMENT MEASURES.....	94
TABLE 4-4 SUMMARY OF INFRASTRUCTURE IMPROVEMENT MEASURES	102
TABLE 4-5 SUMMARY OF SWITCHING BARRIERS MEASURES.....	105
TABLE 5-1 FREQUENCY DISTRIBUTION OF CELLULAR USAGE AGE.....	113
TABLE 5-2 FREQUENCY DISTRIBUTION OF NETWORK AGE.....	115
TABLE 5-3 OVERALL SWITCHING BEHAVIOUR TREND – CATEGORY WISE.....	117
TABLE 5-4 FREQUENCY DISTRIBUTION OF CHURN - CATEGORY WISE.....	117
TABLE 5-5 CHURN VS. FOLLOW-UP ACTION.....	119
TABLE 5-6 CATEGORY WISE INTENTION TO SWITCH	122
TABLE 5-7 CUSTOMER SATISFACTION, LOYALTY, AND BEHAVIOUR	129
TABLE 5-8 SUGGESTION OF SUITABLE TARIFF PLAN	131
TABLE 5-9 PARTICIPATION IN CUSTOMER SURVEYS.....	132
TABLE 5-10 REWARD FOR LOYALTY, HIGH USAGE OR RECOMMENDATION	133
TABLE 5-11 USER OF CUSTOMER INFORMATION.....	134
TABLE 6-1 RESULTS OF FACTOR ANALYSIS	138
TABLE 6-2 DERIVED FACTORS AND RELATED SERVICE QUALITY ATTRIBUTES	140
TABLE 6-3 REGRESSION BETWEEN CUSTOMER SATISFACTION AND OVERALL SERVICE QUALITY...	145
TABLE 6-4 CORRELATION MATRIX: OVERALL SERVICE QUALITY AND CUSTOMER SATISFACTION...	145
TABLE 6-5 SYMMETRIC MEASURES: CUSTOMER SATISFACTION AND INTENTION TO SWITCH	147
TABLE 6-6 CORRELATION MATRIX: CUSTOMER SATISFACTION AND INTENTION TO SWITCH	147
TABLE 6-7 SYMMETRIC MEASURES: CUSTOMER SATISFACTION AND INTENTION TO RECOMMEND ..	148
TABLE 6-8 CORRELATION MATRIX: CUSTOMER SATISFACTION AND RECOMMENDATION.....	149
TABLE 6-9 REGRESSION ANALYSIS SERVICE QUALITY FACTORS AND CUSTOMER SATISFACTION..	150
TABLE 6-10 SUMMARY OF CANONICAL DISCRIMINANT FUNCTIONS.....	152
TABLE 6-11 PERFORMANCE GAP (SERVICE PROVIDER, CUSTOMER)	162
TABLE 6-12 IMPORTANCE GAP (SERVICE PROVIDER, CUSTOMER).....	164

TABLE OF CONTENTS

ACKNOWLEDGEMENT

PREFACE

LIST OF FIGURES

LIST OF TABLES.....vii

1	CHAPTER 1 INTRODUCTION	1
1.1	CUSTOMER RETENTION	1
1.2	CELLULAR INDUSTRY: AN OVERVIEW.....	4
1.2.1	<i>Global Cellular Industry</i>	<i>5</i>
1.2.2	<i>The Indian Cellular Industry.....</i>	<i>6</i>
1.3	THE NEED FOR CUSTOMER RETENTION IN CELLULAR INDUSTRY	10
1.3.1	<i>Churn in the Industry</i>	<i>10</i>
1.3.2	<i>Growing Importance of Customer Retention in the Industry</i>	<i>11</i>
1.4	RESEARCH ISSUES.....	13
1.5	RESEARCH OBJECTIVES.....	14
1.6	SCOPE OF THE STUDY	16
1.7	RATIONALE OF THE STUDY	17
1.8	CHAPTER SCHEMA.....	18
2	CHAPTER 2 – LITERATURE REVIEW	20
2.1	INTRODUCTION	20
2.2	SIGNIFICANCE OF SERVICE QUALITY	20
2.3	GAPS MODEL OF SERVICE QUALITY	22
2.4	MEASUREMENT OF SERVICE QUALITY	25
2.5	SERVICE QUALITY, CUSTOMER SATISFACTION AND BEHAVIOURAL INTENTION	28
2.6	CUSTOMER SWITCHING BEHAVIOUR.....	32
2.7	CUSTOMER RETENTION STRATEGIES	33
2.8	RESEARCH FRAMEWORK.....	37
2.8.1	<i>Research Gap.....</i>	<i>37</i>
2.8.2	<i>Model and Hypotheses</i>	<i>44</i>
2.9	SUMMARY	48
3	CHAPTER 3 – RESEARCH DESIGN AND METHODOLOGY.....	50
3.1	INTRODUCTION.....	50

3.2	RESEARCH DESIGN	50
3.3	RESEARCH PLAN	51
3.3.1	<i>Data Sources</i>	51
3.3.2	<i>Development of Cellular Service Quality Attributes</i>	52
3.3.3	<i>Research Instruments.....</i>	54
3.3.4	<i>Reliability Test for Service Quality Attributes.....</i>	56
3.3.5	<i>Sampling Plan.....</i>	56
3.4	DATA COLLECTION.....	58
3.5	DATA ANALYSIS.....	58
3.6	CLASSIFICATION DATA	62
3.6.1	<i>Profile of the Respondent Service Providers and Customers</i>	62
3.6.2	<i>Consumption Pattern of Respondent Customers.....</i>	68
3.7	SUMMARY	69
4	CHAPTER 4 – CURRENT CUSTOMER RETENTION PRACTICES	71
4.1	INTRODUCTION	71
4.2	OUTLOOK OF THE INDIAN CELLULAR INDUSTRY	71
4.2.1	<i>Exponential Growth in the Industry.....</i>	71
4.2.2	<i>Growing significance of Customer Retention, in the Industry.....</i>	77
4.3	CHURN MANAGEMENT – SERVICE PROVIDER'S VIEW.....	82
4.3.1	<i>Churn Figures</i>	83
4.3.2	<i>Reasons for Churn.....</i>	84
4.3.3	<i>Handling of Voluntary and Involuntary Churn.....</i>	86
4.4	CUSTOMER RETENTION INITIATIVES	89
4.4.1	<i>Churn Prediction Measures</i>	90
4.4.2	<i>Business Process Improvement Measures</i>	93
4.4.3	<i>Infrastructure improvement measures</i>	101
4.4.4	<i>Building Switching Barriers</i>	104
4.5	IMPEDIMENTS TO EFFECTIVE RETENTION PRACTICES	108
4.6	SUMMARY	110
5	CHAPTER 5 – ANALYSIS OF CUSTOMER SWITCHING BEHAVIOUR.....	112
5.1	INTRODUCTION	112
5.2	CELLULAR USAGE AGE AND NETWORK AGE ANALYSIS	112
5.3	SWITCHING BEHAVIOUR IN THE PAST	116
5.3.1	<i>Churn and Loyalty Trend</i>	116

5.3.2	<i>Voluntary and Involuntary Churn</i>	118
5.3.3	<i>Reasons for Customer Defection</i>	119
5.4	INTENTION TO SWITCH	122
5.4.1	<i>Reasons for Intention to Switch</i>	123
5.4.2	<i>Reasons for Intention Not to Switch</i>	125
5.5	CUSTOMER SWITCHING BEHAVIOUR ANALYSIS	126
5.5.1	<i>Did Change vs. Will Change Analysis</i>	127
5.5.2	<i>Churn vs. Satisfaction</i>	128
5.6	SUGGESTIONS FOR CREATING CLOSER PROXIMITY TO THE CUSTOMER	131
5.7	SUMMARY	135
6	CHAPTER 6 – ANALYSIS OF THE SERVICE QUALITY ATTRIBUTES	137
6.1	INTRODUCTION	137
6.2	RESULTS OF FACTOR ANALYSIS	137
6.3	HYPOTHESES TESTING	145
6.4	DETERMINANTS OF CUSTOMER SATISFACTION AND SWITCHING INTENTION	150
6.5	IMPORTANCE-PERFORMANCE ANALYSIS	152
6.6	PERCEPTION GAP ANALYSIS (SERVICE PROVIDERS, CUSTOMERS)	161
6.7	SUMMARY	165
7	CHAPTER 7 – CONCLUSIONS AND RECOMMENDATIONS	167
7.1	SUMMARY OF RESULTS AND CONCLUSIONS	169
7.1.1	<i>Growth in the Industry</i>	169
7.1.2	<i>Churn and Loyalty behaviour</i>	170
7.1.3	<i>Current Retention Practices</i>	172
7.1.4	<i>Ingredients for Effective Customer Retention Strategy</i>	175
7.2	IMPLICATIONS AND RECOMMENDATIONS	178
7.2.1	<i>Suggestions for Service Providers</i>	180
7.2.2	<i>Framework for Measuring and Monitoring Cellular Service Quality</i>	189
7.2.3	<i>Suggestions for Policy Makers</i>	192
7.3	AREAS FOR FUTURE RESEARCH	195
BIBLIOGRAPHY		
APPENDIX 1 : CELLULAR INDUSTRY STATISTICS		
APPENDIX 2 : RELIABILITY AND CORRELATION ANALYSIS RESULTS		
APPENDIX 3 : SERVICE PROVIDER SURVEY QUESTIONNIRE		
APPENDIX 4 : CUSTOMER SURVEY QUESTIONNIRE		
APPENDIX 5 : SOCIO-ECONOMIC CLASSIFICATION		
		xxiv

CHAPTER 1 – INTRODUCTION

1.1 Customer Retention

1.2 Cellular Industry: An Overview

1.3 The Need for Customer Retention in Cellular Industry

1.4 Research Issues

1.5 Research Objectives

1.6 Scope of the Study

1.7 Rationale of the Study

1.8 Chapter Schema

Chapter 1 Introduction

1.1 Customer Retention

Managing customers and retaining them has become one of the most important dimensions of enterprise strategy in this age of fiercely competitive environment. The present decade will go down in business history as the era of focused attention to customer expectation and to profitability through higher customer retention. Companies are today realizing that customer retention is a better litmus test of their accomplishment than profits.

Customer retention is a key to high business performance, as it impacts on profit, economies of scale and other variables that are considered important to provide competitive advantage (Ramakrishnan, 2005). However, many companies are not giving the attention due to it.

Many organizations today place emphasis on attempting new customer acquisitions and thereby, increasing their market share and revenue. However, many of them pay little or no attention to retain their existing customers. Organizations acquire new customers through major investment in marketing and competitive pricing. They lose many of them for reasons that however, remain largely unexplored. Some business analysts have indicated that recruiting a new customer cost five times more than retaining an existing customer (Mittal & Lasser, 1998). As competition and the costs of attracting new customers grow, companies are increasingly concentrating their strategies on customer retention (Jones et al., 2000). Stewart (1996) emphasized that "Unprecedented levels of competition and the need for sustained growth means that the retention of existing customers has to be the primary consideration for service managers." In today's competitive environment, researchers and service marketers advocate on developing customer loyalty in order to maintain a competitive edge and higher revenue. Effective customer retention helps to achieve these targets in most efficient and cost-effective manner.

In rapidly changing market, companies can no longer rely on a revenue strategy based primarily on growing market share. To sustain profitability, companies must change to a business model that concentrates on retaining existing customers, and having an excellent relationship with them.

Today's customer has more choices and expectations than ever before. It has therefore, become essential for providers of services to understand their service requirement and deliver them high quality service in order to retain them. A lack of such an approach, thus, leads to their dissatisfaction and hence, their defection. According to Kotler (2001), "It is not enough to be skilful in attracting new customers; the organization must keep them. It is like constantly adding water to a leaking pot. Today, many organizations suffer from high customer churn—namely, they gain new customers only to lose many of them. Cellular carriers for example, lose 25 percent of their subscribers¹ each year at a cost estimated at \$2 billion to \$4 billion."

Reichheld and Sasser, 1990, were the first to quantify the significance of customer retention. They established a high correlation between customer retention and company profitability in the services industry. They found that profits in service industries increased in direct proportion to the length of a customer's relationship. During their study at one of the leading credit insurance companies, they found out that a 5 per cent improvement in customer retention increased average customer value by 125 per cent. Thereby, Reichheld and Sasser concluded that cutting defections in half could more than double the growth rate of the average company.

According to Kotler (2001) there are two ways to strengthen customer retention. First, is to erect high switching barriers. Customers are less inclined to switch to another provider, when this would involve high capital costs, high search costs or the loss of loyalty discounts. Second, and the better approach, is to deliver high customer satisfaction, thus making it harder for the competitors to succeed in luring the customers.

¹ In this study the words customer/s, subscriber/s and service user/s have been used interchangeably

Customers tend to keep current service as long as the level of their satisfaction is high (Jones, Mothersbaugh & Beatty, 2002). Customer satisfaction is directly related to high quality of service delivery (Cronin & Taylor, 1992). Thus, service organizations can only achieve a high degree of customer retention only through sustained delivery of superior service quality at all the points of service encounters with the customer. Effective and efficient service quality delivery is a critical driver for customer satisfaction, which in turn leads to higher customer retention.

Satisfying and retaining customers is the new mantra, through which companies are learning to earn the loyalty of their customers. The advantage of loyal customers is that they are less influenced, by competitors and it is much easier for companies to cross-sell/up-sell new products and services to them, thereby increasing their profitability. Defecting customers, on the other hand account not only for revenue loss but also damage the brand value.

Today's customers have higher awareness and maturity. They are smarter, more price-conscious, more demanding, less forgiving and are approached by more competitors with equal or better offers, thereby making them harder to please. The challenge, according to Gitomer (1998), "is not in producing satisfied customers; several competitors can do this. The challenge is to produce loyal customers." Loyalty enables organizations to build lasting and profitable relationships with its customers, resulting in higher productivity and reducing churn by optimising the use of resources to satisfy each and every customer.

For organizations to remain successful, service managers must understand the causes of customer defection and its subsequent effects. Improved awareness as to why customers defect helps in framing effective customer retention strategies. Effective customer retention strategies provide a unifying framework that enables service marketers to adopt corporate strategy and operating practices in ways that will help them to serve their customer better and deliver high customer satisfaction.

Customer retention is a key area of focus in service industries and its importance has also been realized in the cellular service industry globally. In India, cellular service was introduced in 1995, and since then it has seen exponential growth. However, the service industry has also seen a rise in switching behaviour of cellular users. Increasing competition, decreasing average revenues, falling prices and introduction of new technologies has made customer retention a very important issue for the Indian cellular industry.

This study aims to explore the current customer retention practices in the Indian cellular industry with a view to suggest, how they can be further improved. The sections, that follow next, present a detailed background about the cellular service industry, and the growing significance of churn management, and customer retention both, in the global and Indian context. Based on this backdrop, the research issues and objectives of this study have been discussed.

1.2 Cellular Industry: An Overview

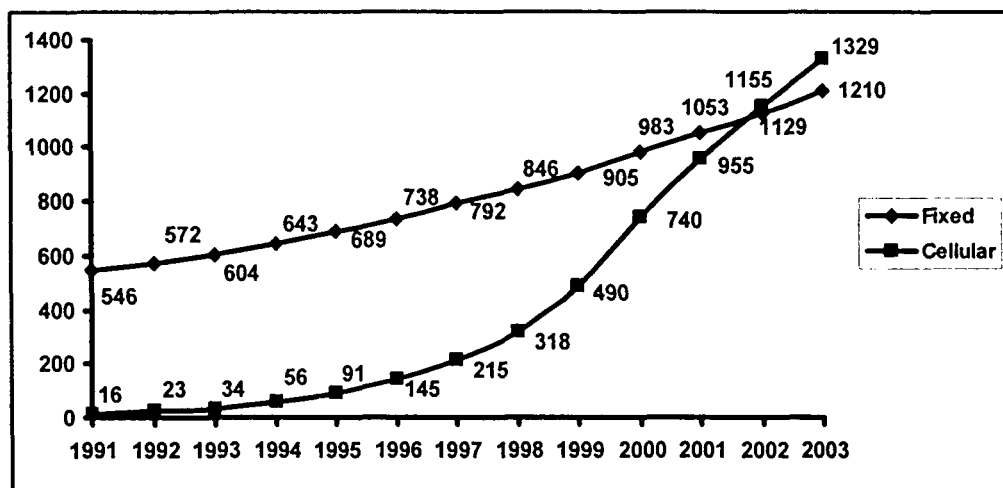
Communication is the most significant element required for human existence and social behaviour. It brings meaning to our lives. As societies grew the need to communicate efficiently from anywhere and at any time gave rise to telecommunication industry. The telecommunication industry has redefined the way we live and do business. It has become so pervasive and crucial to the survival of the world economy that the International Telecommunications Union (ITU) declared 'Access to Telecommunication as a basic human right' as its theme for its 1999 conference held in Switzerland.

The telecommunication industry itself has seen a sea change in the past few decades. There has been a constant revolution and commissioning of new technologies and equipments. From fixed-line phones to pagers to cellular telephony to satellite phones, these technologies have made communication easier and better quality. Among all these technologies, cellular telephony has made the most explosive growth.

In the very short period, it has become the most popular communication method worldwide. Globally, this technology has seen rapid expansion due to its ease of adaptability, reach, and cost as compared to fixed-line services. The need for mobility, in the workplace as well as in our everyday lives, has driven rapid growth in the cellular services industry. Besides providing voice communication, today cellular telephony is redefining our lives. Cellular services today offer information and utilities at our fingertips. Combined with Internet, it has added new imaginative ways in its utilization, enabling seamless connectivity, and increasing productivity and efficiency.

1.2.1 Global Cellular Industry

The growth of cellular subscribers all over the world has been unprecedented. The year 1987 saw the cellular subscription reaching the first 'million' mark (TRAI, 2005a). By the end of 1991 there were just 16 million cellular subscribers worldwide; 11 years later (in 2002), that figure had jumped to an astounding 1.32 billion subscribers. In the same period, fixed-line subscribers rose from 546 million to just 1.2 billion (Fig. 1-1).



Source: www.itu.int/ITU-D/ict/statistics/at_glance/keyTELECOM99.html

Fig. 1-1 World Cellular Subscriber Growth

The year 2002 was special for cellular telephony in many ways. The global cellular subscriber base not only crossed the 'billion' mark, but also overtook the total number of fixed-line subscribers worldwide (Fig. 1-1). This establishes the global popularity of cellular telephony, as the universal choice of the masses.

It is estimated that the world cellular figures will grow to about 2.2 billion by 2006 at a Compound Annual Growth Rate (CAGR) of about 20 per cent. At regional level, the fastest-growing region in the world is Africa with a CAGR of 39 per cent, and the Western European region will grow relatively slowly at a CAGR of 13.5 per cent (refer Appendix 1: Table A-2 World Cellular Projected Growth).

This high growth is due to the fact that cellular telephony has several inherent advantages, facilitating faster and more economic rollout. Cellular telephony has been recognized not only as a means to facilitate communication, but also as a driver for economic growth. A study in February 2005 by Leonard Waverman of the London Business School provided the most detailed analysis of the relationship between mobile phones² and economic growth (*Economist*, 2005). Though the focus was on Africa, the lessons are equally relevant globally. The study found that in a typical developing country, mobile telephony has a significant positive impact on economic growth. In quantified terms, an increase of 10 mobile phones per 100 people boosts GDP growth by 0.6 percentage points. Thus, today, cellular telephony is recognized as a key service industry as it not only facilitates mobile communication but also induces economic growth.

1.2.2 The Indian Cellular Industry

Over the last decade, India has been keeping pace with the fast-changing global telecom scenario, and is today one of the fastest growing telecom markets worldwide.

India currently ranks amongst the top ten telecom networks in the world and the second largest in Asia. The current worth of the industry is estimated at US\$9 billion, and is projected to cross US\$100 billion by 2020 (Ramachandran, 2004). New and innovative use by a varied customer base has made cellular services the key plank for India's economic development.

² In this study the words cellular, and mobile has been used inter-changeably.

The government policies pursued over the years, beginning with the early 1990s' have been able to transform the telecom sector from a purely state monopoly to a competitive regime with multiple players. This has resulted in an impressive growth in teledensity, and an equally significant reduction in the price of telecom services. According to the study paper published by TRAI³ (TRAI, 2005a), the teledensity in India has grown from under 2 per cent in the year 1998 to over 9 per cent in 2005. The cellular tariffs today are almost 1/10th of what they were about five years ago. The handset prices too have dipped by more than 70 per cent in the last five years, greatly adding to the popularity of cellular service.

The cellular phone today has become an integral part of the Indian masses and is acting as a driver for improving their socio-economic condition. In India, cellular telephony is fast becoming the dominant technology for voice communication. Today there are over 104 state-of-the art networks (GSM⁴ plus CDMA⁵) on the air, serving over 2,000 cities and towns in India (Ramachandran, 2004).

The saga of the Indian cellular industry started in 1994, when private companies were invited to bid. Finally, licences were awarded in 1995. Until then, India was a pure fixed-line market and the scope for expansion was limited. Limited availability of fixed-line connections and demand for mobile communication quickly boosted new subscription of cellular phones.

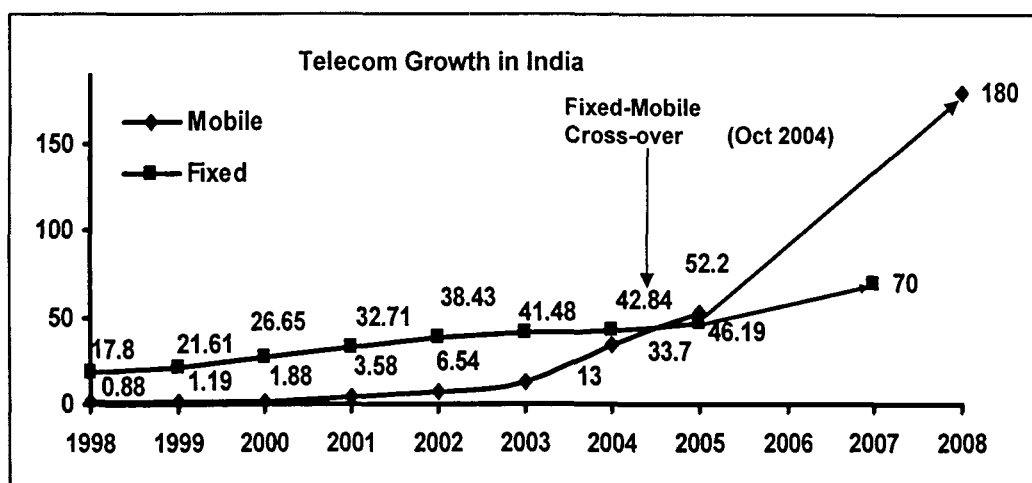
In May 2005, Indian telecom reached the historic landmark of 100 million telecom subscribers (TRAI, 2005b). The cellular telephony has been a strong contributor to this, accounting for over 50 per cent of all telecom subscribers in the country. The growth and achievement of cellular services in India has been commendable, maintaining a CAGR of 85 per cent per annum during the last six years. It has grown from a mere 0.88 million subscribers in 1998 to

³ TRAI - Telecom Regulatory Authority of India.

⁴ GSM Technology: GSM (Global System for Mobile Communication) is the first and the dominant global standard used for cellular telephony with global reach and connectivity.

⁵ CDMA technology: CDMA (Code Division Multiple Access) cellular technology, is a cheaper alternative and with limited capabilities as compared to GSM technology.

a staggering 52.2 million in financial year 2005 (Fig. 1-2). In comparison, during the same period, the fixed-line subscriber base just grew from 17.8 million to 46.9 million. The fixed-mobile crossover took place in October 2004, establishing the superiority of the latter. Growing at rate of 85 per cent since 1999, the cellular subscriber base is expected to make a quantum jump to a total of 180 million subscribers by 2008 (Fig. 1-2).



Source: TRAI Study paper No. 2/2005, 'Indicators for telecom growth.'

Fig. 1-2 Telecom Growth in India

The key growth drivers responsible for the phenomenal growth have been highly improved affordability and high potential for connectivity. The real Indian mobile revolution has come from the continuous growth of the middle and low-income group market. The Indian mobile market has moved fast from a class service to a mass service for the common man. This has happened because of de-regularization policy adopted by TRAI. It has also been responsible for building competitive and conducive environment for growth. These liberalized policies in turn enabled the service providers to pass on the benefits to the Indian customer and lowering the cellular service affordability factor. Even though, initially, cellular services were an expensive commodity, but with the increasing demand the price started to fall down, and soon even common man on street could afford it. Along with these initiatives, market growth has been fuelled by demand, availability of affordable handsets, increased coverage, availability of alternate technology, and customized service offerings.

In India, currently, cellular service is being offered as prepaid or post-paid service⁶, using two different types of technologies, (GSM/CDMA). There are in total eight GSM and six CDMA service providers covering the entire length and breadth of the nation, who are offering these services (refer Appendix 1: Table A-1 Indian Service Providers and their Subscriber Base).

Looking at cellular growth, particularly in the last financial year (2004-05), the industry has moved from a total subscription base 34.42 million to 52.35 million subscribers, witnessing a net growth of around 52 per cent. During this period the GSM subscriber base grew by 57 per cent and the CDMA expanded by 38 per cent (Table 1-1).

Table 1-1 Indian Cellular Growth: GSM vs. CDMA

(**Figures in millions)

	Mar 99	Mar 00	Mar 01	Mar 02	Mar 03	Mar 04	Mar 05
GSM	1.2	1.9	3.6	5.64	13.1	26.21	41.04
CDMA	0.0	0.0	0.0	0.76	1.6	8.21	11.31
Total	1.2	1.9	3.6	6.40	14.67	34.42	52.35

Source: *Voice and Data*, July 2005, p. 42, Cyber Media.

India is predominantly a GSM market, with current market share of 78.4 per cent, and 21.6 per cent for CDMA (Table 1-1). From a mere 1.2 million subscribers in March 1999 the GSM subscriber base reached a towering figure of 41.04 million in March 2005. CDMA service was introduced in India in March 2002 as a low-cost, cellular solution for the masses. The CDMA, since then, has grown exponentially because of its affordability factor and mass appeal from 0.76 million subscribers to 11.31 million in March 2005.

Service providers such as Reliance, BSNL and MTNL were the first initiators of CDMA technology. They changed the paradigm of cellular service by breaking the high-cost monopoly of private GSM service providers. They specifically targeted the middle and lower income group customers, thereby changing the rules of the game.

⁶ Prepaid/Post-paid service: In case of prepaid subscription, the customers need to pay for the usage in advance. Alternatively in case of post-paid service, payment needs to be done after the usage of service on monthly basis.

1.3 The Need for Customer Retention in Cellular Industry

Globally, the environment in which the service providers have operated has been subject to seismic change. Earlier, they operated in a world with relatively scarce competition due to monopolistic practices, high barrier to entry, and supplying relatively stable products via well established channels to a relatively predictable customer base. However, all this has changed in the last decade.

Today's fiercely competitive and economically challenging market is driven by deregulation, availability of cheaper technology, convergence platforms and growing expectation of the customer. Customers these days exercise their choices. They switch providers quickly and easily in order to chase the latest fad or best deal. Globally, cellular service industry is suffering from high rate of customer defection. The following section looks at these global trends and also discusses the growing significance of this issue.

1.3.1 Churn in the Industry

The phenomenon of customers changing from their current service provider to a new service provider is known as churn⁷. In a global study conducted by Informa UK Ltd. (Informa, 2001), they discovered that customer churn was a global phenomenon. According to the report the annual churn rate varies a great deal across the cellular operators⁸ worldwide (refer Appendix 1: Table A-3 Churn Figures in World Cellular Market).

The research firm, McKinsey, in their industry-wide study concluded that the annual subscriber churn in the cellular industry has risen from 17 per cent, five years ago to 32 per cent (McKinsey, 2001). These churn figures are alarming for any business operation. A churn rate of 25% means that, if no

⁷ Churn is a generic term, used when a customer changes his service or service provider. For the purpose of this study, churn has been considered, only as a change of service provider.

⁸ In this study, the words cellular operator, cellular service operator and cellular service provider have been used interchangeably.

new subscribers are acquired at a given time, then the average lifetime⁹ of an existing subscriber is 4 years. This indicates the gravity of the situation, wherein such a service provider will lose almost half its subscribers in 2 years.

According to Blubaugh & Balaji, (2000), one of the key concerns of the cellular service providers today is how they can effectively control over this high attrition rate. Research firm Gartner, in their study of the Asia-Pacific region found that the monthly churn rate in the Indian cellular service industry to be in range of 3.5 to 6 per cent, which is one of the highest in this region (*CellularNews*, 2003). According to the study, other markets in the region like Indonesia (1–2%), Malaysia (2–2.5%), Singapore (1.7–2.1%) and Thailand (1.9–2.6%) had much a much lower rates.

According to Fiona Chau (2004), “Cellular operators across the Asian region have finally, started to take serious note about revenue leakage cause by customer churn and are now focusing on it as a key strategic issue.”

1.3.2 Growing Importance of Customer Retention in the Industry

Globally, cellular service operators are facing increasing competition, decreasing ARPU¹⁰ and rising revenue loss because of subscriber churn. This makes customer retention a key focus issue for the industry, as it directly affects its profitability. Accenture, one of the leading cellular telecom software consultants, estimates the combined annual loss to the US and European cellular service providers because of customer churn at around \$4 billion (*Informa UK*, 2001).

Controlling churn is essential, because retaining an existing customer is far cheaper than acquiring a new one. According to Cahners In-Stat Group, cellular service operators pay as high as 300 USD per subscriber in acquisition costs (Hold, 2004). These costs include expenses such as dealer incentives, advertising, marketing and other sales-related operating costs.

⁹ The average lifetime of a customer is equal to $1/c$, where 'c' is the annual churn rate.

¹⁰ ARPU – Average Revenue Per User

After acquiring the new customers, the cellular service providers also need to spend a high cost in supporting and servicing their customer. Each subscriber, thus, represents a substantial investment for cellular service providers. The service providers do not begin to make a profit on their customers immediately. They require the customer to stay with them for a break-even period. Therefore, when newly acquired customers defect early, the service providers do not even get back their investment in acquisition costs.

An even greater problem facing service providers today is the churn of valuable customers: those who are most profitable to them. Their loss upsets the balance of profitability. As competition increases, cellular service providers have to use a range of giveaways and expensive marketing tactics to solidify customer loyalty. Thus, it is becoming difficult and costly to achieve profits.

Besides the impact on profitability, there are two other factors that contribute to the growing significance of customer retention. The first factor is the deregulation in this industry, which is geared to curbing monopolistic practices and ensuring an equal competitive platform for all operators, while keeping customer interest in focus. The second factor is the provisions like mobile number portability¹¹, wherein the subscriber can move from one service provider to another without losing their number. Number portability, which has already been implemented in the US and Europe, has given the freedom of choice to cellular subscribers to take easy decisions regarding switching their service providers.

The growing importance of customer retention is forcing the service providers to draw a better understanding of the influence of customer defection on their business. The economic and environmental factors are also compelling them to implement the right customer retention framework that will provide them, higher customer loyalty, competitive advantage and revenue assurance.

¹¹ Mobile Number Portability (MNP) lets a customer to retain his number, when he switches to a new service provider. Markets where number portability is not available the customer loses his number and needs to take up a new one, with the new provider. Availability of number portability thus, provides the freedom of choice to the customer to switch his provider, whenever required, without being bothered about losing their cellular number.

1.4 Research Issues

In the last few years, like other cellular markets in the world, churn and customer retention have also emerged as key issues, in the Indian cellular service industry. The industry, since its inception, has seen tremendous growth, and also an increase in the customer churn rate. Research agency, Gartner in their study in 2003, found that the customer churn rate to be one of the highest in Asia Pacific region (3.5-6%; *CellularNews*, 2003). IDC India, in their nationwide annual user satisfaction survey, reported a figure of 8–10 per cent (*Voice & Data*, 2005). These figures clearly indicate rise in the switching behaviour of the Indian subscribers.

According to ExpressComputer (2003), most of the Indian cellular circles have up to six cellular telephony offerings and thus, in this highly competitive scenario, it is but natural that a large number of customers are switching their customers. Moreover, the research agency IDC India, concluded that, the service quality delivered especially the network performance of all the service providers is dismal (*Voice & Data*, 2003), thus, contributing to customer's dissatisfaction and hence their defection. According to another study conducted by IDC India, a high 30 per cent of mobile users, even though satisfied with the service provider, are likely to shift to a better service or offer (*EconomicTimes*, 2005).

The rising concern for churn has been further supplemented by the fact that mobile number portability is soon going to be implemented in India. In the explosive growth phase, the India cellular service providers paid little or no attention to churn. However, with decreasing ARPU, and increased competition, customer retention has now become an important strategic issue. Today, Indian service providers are looking for new ways and means to formulate an effective service strategy that will give them the ability to sustain competition, maintain profitability, manage churn and retain their customers. Contrary to this requirement, no academic research has focussed its attention towards understanding the switching behaviour of the Indian cellular service

users, and identifying constituents of effective customer retention strategies. This study dwells into these significant issues of the cellular service industry.

In light of the dynamism in the Indian cellular industry, coupled with phenomenal growth, and increasing churn rate, the following research issues were identified: –

- A. What is the nature of churn in the Indian cellular industry? And what are the reasons for customer defection and loyalty?
- B. Are the current customer retention practices in the Indian cellular service industry effective in managing churn?
- C. How can the current customer retention practices be further improved?

1.5 Research Objectives

Even though churn is major concern in the Indian industry however, not much academic insight is available on the switching behaviour in the Indian cellular customers. More importantly, there is also no literature available on the current retention practices of the Indian cellular service providers. In this study an effort has been made to understand how service providers are currently aligning themselves to the changing landscape, and on what premises they should base their future customer retention strategies.

Numerous papers on the causal relationship between service quality, customer satisfaction, loyalty, switching behaviour and repurchase intention have been written (Woodside, 1989; Bitner, 1990; Bolton & Drew, 1991a; Fornell, 1992), endorsing its application across the service industry.

Recently specific studies have been carried out by researchers in context of cellular service industry across different cellular markets around the world also reached the same conclusion (Woo & Fock, 1999 – Hong Kong market;

Gerpott, Rams & Schindler, 2001 – German Market; Lee, Lee & Feick, 2001 – French market; Wang, 2002 – Chinese market; Johnson & Sirikit, 2002 – Thai Market; Kim & Yoon, 2004 – South Korean market; Aydin & Ozer, 2005 – Turkish market).

Based on the above studies, it was ascertained, that in order to identify important constituents of successful customer retention strategies, the causal relationship between service quality, customer satisfaction, switching behaviour and intention to recommend needs to be investigated in context of Indian cellular service industry.

Several academic researchers using SERVQUAL/SERVPERF have developed industry-specific service quality measuring models, viz., (LIBQUAL¹²/ WEBQUAL¹³), to measure the perception of the service quality and suggest areas of service improvement. In context of the cellular service industry, researchers such as Leisen and Vance (2001), Johnson and Sirikit (2002) and Wang (2002) have used the classical SERVQUAL model. However, only few researchers, such as Woo and Fock (1999), have tried to develop a service quality measurement model tailored to cellular industry. This study further, substantiates their effort to develop such a model.

According to Jain and Garima, (2004), in Indian context, little research has been done in the area of service quality perception. The view can very well be extended to and especially in context of Indian cellular service industry. This study, attempts to design a framework for measuring service quality in this industry, with the focus on identifying essential components that need to be part of an effective customer retention strategy.

To aggregate, the overall objective of this study is to evolve a better understanding of customer retention practices in the Indian cellular service

¹² LIBQUAL is a survey developed by the Association of Research Libraries (ARL).

¹³ WebQual™ consulting services uses a statistically validated and reliable measure for determining Web site quality.

industry and to suggest how to improve them. In detail, the study seeks to fulfil the following research objectives.

- A) To analyse the current strategies adopted by cellular service providers for retaining their customers.
- B) To examine different patterns of churn and loyalty among cellular users and the reasons thereof.
- C) To investigate the relationship between service quality, customer satisfaction, and switching behaviour.
- D) To identify the service quality attributes for cellular service and measure their importance and performance as perceived by cellular users.
- E) To identify the service quality factors that influence customer satisfaction and customer's intention to switch.
- F) To suggest how the cellular service providers can improve their existing retention strategies.

1.6 Scope of the Study

In India, there are a total of 14 cellular service providers. Out of these, nine accepted to share their customer data and to participate in this study. These include Bharti Tele-venture, Idea, Hutch, Spice, BSNL, MTNL, HFCL, Tata Teleservices, and Reliance. Besides, accounting for a substantial cellular market share, these service providers also represent a mix of various dimensions of the Indian cellular industry: GSM and CDMA service operators; regional and national operators; private and public sector operators; metro and non-metro; and newly introduced and pre-established operators.

The customer data shared by the respondent service providers did not include corporate customers, as this data is considered as competitor sensitive data.

The data provided by the respondent service providers included individual post-paid subscribers from geographical area covering New Delhi and its NCR (National Capital Region), parts of Punjab, and Haryana.

Cellular service users¹⁴ can be divided into two broad categories: prepaid, and post-paid. Both this group use same set of cellular communication services, but their payment method for the service differs. Whereas the prepaid customers pay for the service usage in advance, the post-paid users pay after the service usage, usually, on a monthly basis. For the purpose of this study, post-paid cellular users were selected based on the following reasons:

- Service providers maintain more accurate subscriber information about post-paid users, as compared to the prepaid users. Only recently, Government of India has made it mandatory to register the prepaid user along with name and address verification.
- Prepaid cellular service is generally perceived as a commodity service i.e. use-and-throw service. The post-paid cellular user, on the other hand, represents a mature subscriber, spending a lifetime with the service providers.
- The service providers have more strategic focus on the retention and loyalty of the post-paid users.

1.7 Rationale of the Study

The purpose of this study is to achieve a holistic understanding of the issues related to customer retention of Indian cellular service industry. The study investigates the subject from both, customers' and service providers' view. The research will assist the service providers in developing effective customer retention strategies framework based on clearer understanding about switching behaviour of the customers, and the factors that influence it.

¹⁴ In this study the words customer/s, subscriber/s and service user/s have been used interchangeably

This study brings insight into the various customer retention measures currently being adopted by the service providers and investigates their effectiveness, based on the data collected from the customers. The results of this study would help the service providers to derive a better understanding of cellular service quality and its measurement. It will also help them to identify areas of service improvement, which require corrective action, to increase customer satisfaction and loyalty. This study will also provide useful inputs to the regulatory authorities and the policy decision makers, on the areas where their intervention would help to improve the cellular service quality standards.

1.8 Chapter Schema

This thesis has been divided into seven chapters. This chapter covered the, 'Introduction' to this study. A brief outline of the rest of the chapter schema is presented below:

Chapter 2, 'Literature Review', examines the existing literature, for the subjects related to this study. The areas covered include, service quality and its measurement, the relationship between service quality, customer satisfaction, and behavioural intention. The chapter also reviews different studies on the customer switching behaviour and customer retention strategies in general, and specific to the cellular service industry. Based on the identified research gap, the chapter further presents, the study model and the hypotheses adopted for this study.

Chapter 3, 'Research Design and Methodology', outlines the approach and plan of this research. This chapter describes the development of two research instruments, used for this study and further discusses the sampling procedure adopted to administer them. Besides this, the chapter presents the data analysis methods adopted for the study and also reports the profile of the respondent customers and service providers.

The next three chapters present the results of the analysis based on data collected through customer and service provider survey.

Chapter 4, 'Current customer retention practices', provides an insight into the outlook of the Indian cellular service industry, in terms of its growth and the increasing significance of customer retention. This chapter details the respondent service provider's perspective of customer's switching behaviour and the churn management practices adopted by them. In this chapter, their current customer retention initiatives have been described in detail. It also highlights some of the impediments to effective customer retention strategies identified by the respondent service providers.

Chapter 5, 'Analysis of Customer Switching Behaviour', investigates the churn and loyalty behaviour of respondent customers. This analysis is based on their switching behaviour in the past, and their intention to switch in future. This chapter also highlights areas of service improvement that need to be implemented by the service provider, to enhance the loyalty of their customers.

Chapter 6, 'Analysis of the Service Quality Attributes', examines the results of the factor analysis and hypotheses testing. It also identifies the determinants of customer satisfaction and switching intention, among the derived service quality factors. In addition the chapter also presents the findings of the Importance-Performance analysis and highlights the gap in the perception of the service providers and their customers.

Finally, **Chapter 7**, 'Conclusions and Recommendations', draws key inferences of the study and discusses the implications of the empirical findings in the context of the Indian cellular service industry. Based on the conclusions, improvements in the current customer retention strategies have been suggested and recommendations for policy makers have been made. A service quality framework for measuring and monitoring cellular service quality has been presented. The chapter also discusses the limitations of the study and suggests the areas for future research.

CHAPTER 2 – LITERATURE REVIEW

2.1 Introduction

2.2 Significance of Service Quality

2.3 GAPS Model of Service Quality

2.4 Measurement of Service Quality

2.5 Service Quality, Customer Satisfaction and Behavioural Intention

2.6 Customer Switching Behaviour

2.7 Customer Retention Strategies

2.8 Research Framework

2.9 Summary

Chapter 2 – Literature Review

2.1 Introduction

Customer retention has been acknowledged as a key area for research and has received significant attention in academic circles. Various researchers have linked service quality, customer satisfaction, and customer switching behaviour. This chapter explores the extant literature and examines the development of this relationship in the context of different service industries in general and cellular service industry in particular. The objective of this chapter is to present the research framework developed for this study based on the review of the literature.

This chapter has been divided into seven sections. The first section examines the growing significance of service quality. The second section looks at the history and evolution of the GAPS model developed by Parasuraman, Zeithaml and Berry (1985). The third section describes the SERVQUAL model and also looks at other models developed by its critiques, EP, NP and SERVPERF. The fourth section delves into the causal relationship between service quality, customer satisfaction and behavioural intentions. Discussion on various aspects of customer switching behaviour and customer retention strategies has been included in next two sections, five and six. The last section elaborates the research gap, in the existing literature related to the subject of this study. Based on this gap, this section also, presents, the study model developed of this research. This model encapsulates, the framework for empirical analysis including the hypotheses testing.

2.2 Significance of Service Quality

Services can be defined as deeds, processes, and performances. Services are characterized by intangibility, perishability, heterogeneity and inseparability of production and consumption (Parasuraman, Zeithaml & Berry, 1985). One of the most important areas of research in marketing,

particularly in service marketing, is the concept of service quality (Lovelock, 1983). Research indicates that service quality is recognized as a critical factor in the success of any business. It has emerged as an important management objective as it relates to costs (Crosby, 1979), financial performance (Buzzelle & Gale, 1987), customer satisfaction (Spreng & Mackoy, 1996), customer retention (Reichheld & Sasser, 1990), and differential competitive advantages (Lacobucci, Grayson & Ostrom, 1994).

In today's competitive marketplace, it is important for organizations to find new ways, not only to reach at the top, but also to maintain that leadership (Kandampully, 1998). The premise of service quality as a competitive edge in gaining market leadership has been well recognized both, in academic circle and by leading service organizations. Service industries globally are adopting delivery of desired service quality as a strategy to position themselves more effectively in the marketplace (Parasuraman, Berry & Zeithaml, 1988; Cronin & Taylor, 1992). High-quality goods and services are favoured in the marketplace, and produce measurable benefits in terms of profits, cost savings, and market share. The quality of services and goods has been recognized as a critical strategic variable in achieving efficiency as well as effectiveness in business operations (Anderson & Zeithaml, 1984).

There is considerable evidence that service quality functions as an antecedent to customer satisfaction (Reidenbach & Sandifer-Smallwood, 1990; Cronin & Taylor, 1992). Further, Jones and Sasser (1995) propose that high level of satisfaction leads to increased customer loyalty. They also indicate that increased customer loyalty is the most influential driver of long-term financial health of the organization. Hallowell, (1996) also affirm higher customer satisfaction leads to higher customer retention.

Winning new customers is not only difficult but also involves high acquisition cost. It has been estimated that it costs five times as much to attract a new customer as it does to retain a current one (Desatnick, 1988; File & Prince, 1994). Conversely, a decrease in customer defection rates of five percentage points has been found to increase profits by 25 to 100 per cent (Buchanan &

Gillies 1990). For these reasons, companies delivering desired service quality have higher profits accruing from more loyal customers, lower marketing costs and consequently, higher return on sales (Bell & Zemke 1992).

With the evidence that service quality leads to satisfaction, researchers such as Farber and Wycoff (1991), and Schlesinger and Heskett (1991), advocated implementation of service quality improvement programs. One of the key elements of this suggestion is to monitor and measure service quality. In the last few decades, researchers have focussed their attention on understanding various dimensions of service quality and its measurement. The section that follows next, traces the evolution of some of these models.

2.3 GAPS Model of Service Quality

In the early 1980s, concerns about customer satisfaction and product quality became subjects of growing importance in the service industry and academic circles (Grapentine, 1997). In the landmark papers, 'A conceptual model of service quality and its implications for future research' (1985) and 'SERVQUAL: A multiple-item scale for measuring customer perception of service quality' (1988), Parasuraman, Zeithaml and Berry, proposed a 'GAPS Model' for assessing service quality. This framework is recognized today as a major contributor to service marketing literature, which laid the foundation of service quality and its measurement (Grapentine, 1997). This section discusses the GAPS model and then traces its subsequent developments by its authors¹⁵.

The GAPS model identifies five gaps between customers and service providers. Each of these gaps focuses on different aspects of possible inconsistency, which can lead to non-delivery of high service quality.

¹⁵ The historical developments of GAPS model has been compiled based on the article written by Terry Grapentine in recognition of the 10th anniversary of the publication of SERVQUAL scale in Journal of Retailing (Grapentine, 1997).

- The 'Gap 1' defines the difference between customer expectations and management perceptions of customer expectations. Knowing one's customer is the cornerstone of effective marketing (Dutka, 1993). It is important for an organization to be aware of what exactly customers expect.
- The 'Gap 2' focuses on the difference between management perceptions of customer expectations and service quality specifications. This gap relates to the consistency between the organization's established specifications of service quality and their understanding of the customer's expectations of its customers.
- The 'Gap 3' relates to difference between service quality specifications and the service actually delivered and is also referred to as the service performance gap. This is the difference between what an organization stipulates as service standards and practices, and what employees actually deliver to customers. An organization must closely and carefully monitor the provision of service. Failure to do so would lead to lower customer satisfaction (Gitomer, 1998).
- The 'Gap 4' describes the difference between service delivery and what is communicated about the service to customer. The consistency between organizational assurances of service delivery and actual service delivery is the issue of this gap. According to Reichheld and Sasser (1990), failure to deliver service as promised to the customer leads to their dissatisfaction and defection.
- The 'Gap 5' is the sum of the degree and direction of Gap 1 to Gap 4. It is the difference between the customer expectation and customer perception (actual experience) of service quality. If the perception is lower than the expectation, then it leads to their dissatisfaction. While meeting or exceeding the expectation leads to satisfaction or delight (Keiningham & Vavra, 2001).

Later in 1988, based on their initial work, the authors of the GAPS model presented an extended model of service quality (Parasuraman, Zeithaml & Berry, 1988), wherein, they identified a number of factors, internal to an organization that affect the level of service quality delivered to the customer. These internal factors were primarily related to Gap 1 to Gap 4 as suggested in their original model. In 1993, Zeithaml, Berry and Parasuraman brought another new dimension to their GAPS model by introducing two new propositions. First, customer assesses service performance based on two standards, what they 'desire' and what they deem 'acceptable'. Second, a 'zone of tolerance' separates desired service from adequate service. The tolerance zone indicates, the range limit, under which the customers are willing to accept the service quality of the service organizations. Extending their concept of service quality, in 1996, Zeithaml, Berry and Parasuraman developed a conceptual framework for linking service quality, with behavioural and financial consequences. The empirical evidences, in this article support the fact that, improving service quality has positive impact on behavioural intentions. Thus, exceeding the adequate service threshold can sharply increase the payoffs, in terms of fostering customer loyalty and curtailing propensity to switch. Further, Berry and Parasuraman in 1997 evolved a concept of SQIS (service-quality-information-system), which locks together all their conceptual and empirical work done over the previous years (Berry & Parasuraman, 1997). They suggested that management must implement a dynamic SQIS that measures service quality from multiple perspectives, including customers, employees and competitors' customers.

To summarise, the GAPS model over the years has changed the landscape of service quality literature (Grapentine, 1997). It brought the concept of customer focus and service excellence together in a structured and practical way (Lovelock, 1983). According to Zeithaml and Bitner (2000), the GAPS model places the customer in the centre and advocates, the service organization to align their strategies around it. In a holistic view this model helps in identifying strategies and processes that firms can employ to achieve service excellence. In the next section, the empirical and operational aspect of service quality is discussed in detail.

2.4 Measurement of Service Quality

Grönroos (1984) was one of the first researchers to explore the dimensions of service quality. He defined service quality as 'perceived service quality' by a customer with subjective rather than objective criteria. His deconstruction of service quality led him to conclude that its principal components include technical quality, functional quality, and corporate image. Explicit in this model is the assumption that service products have both, 'instrumental' and 'expressive' outcomes. Grönroos (1984) concluded that 'satisfactory performance is a prerequisite for satisfied customers'. Though legitimacy of the Grönroos model has never been seriously questioned, tracing the literature reveals that several instruments for measuring service quality have been experimented with. These include SERVQUAL, EP, NP, and SERVPERF. A brief summary of these models follows next.

- **SERVQUAL model:** *Service Quality = Performance – Expectation*. The term 'SERVQUAL' is an abbreviated form of 'service quality'. Parasuraman, Zeithaml and Berry developed this measurement in 1985. SERVQUAL is a generic instrument for measuring perceived service quality that is viewed as the degree and direction of discrepancy between customers' perceptions and expectations, on different aspects of service being delivered to them. A difference score for each of these service quality item 'Q', representing perceived service quality is found by subtracting the expectation score ('E') from the corresponding performance (or perception) ('P') score. Therefore, $Q = P - E$. Thus, according to this model, the service quality, as perceived by customers, stems from a comparison of what they *feel* service providers should offer, '*expectation*' with their '*perception*' of the performance of service provided by service providers. According to the model, the service organization, can achieve higher service quality when customer '*perception*' exceeds '*expectation*'. The first version of the SERVQUAL instrument was made with a 97-item questionnaire. Parasuraman et al. (1985) refined those items and introduced a new version of the SERVQUAL instrument in 1991, consisting of 22-pairs-of-items.

In the new version, the SERVQUAL scale was operationalized to measure service quality along with five distinct dimensions that can be viewed as indicators of the construct of perceived service quality (Table 2-1).

Table 2-1 Five Dimensions of SERVQUAL Model

Dimension	Description
Tangibles	The appearance of physical facilities, equipment, personnel, and communication materials
Reliability	The ability to perform the promised service dependably and accurately
Responsiveness	The willingness to help customers and to provide prompt service
Assurance	The knowledge and courtesy of employees and their ability to convey trust and confidence
Empathy	The provision of caring, individualized attention to customer:

The SERVQUAL model has been acknowledged as an established research model for measuring service quality across a variety of services. But it has not been free of criticism. As a result, other researchers have proposed refinements to this model. The criticism of the model has been on both, theoretical and operational issues.

Carman (1990) disagreed with the notion that SERVQUAL could be a generic measure that can be applied to any service. Babakus and Boller (1992) also argued that dimensionality of service quality depend on type of service under study. According to Brown, Churchill, and Peter (1993) using the difference in scores ($Q = P - E$), causes a number of measurement problems such as reliability, discriminate validity, spurious correlations, and variance restriction. According to Teas (1993) there are different definitions of 'expectations' in the service marketing literature. These different sets of definitions include a forecast or prediction, desires, wants, what the providers of service should posses, classic ideal point, and vector attribute (Parasuraman, Berry, & Zeithaml, 1988, 1991). Teas (1993) argued that these various interpretations result in, potentially serious measurement validity problems. He further contended that, the SERVQUAL 'P-E' measurement specification is not compatible with either with the classic ideal point or a feasible ideal point, definition.

Teas (1993), in his paper, proposed two models to measure service quality, 'Evaluated Performance' model (EP model) and 'Normative Quality' model (NQ model). The EP model incorporates the classic ideal point concept into the service quality model, while the NQ model integrates the classic ideal point concept with the SERVQUAL using a revised 'Expectation' concept. The results showed that, not only were the EP or NQ model superior to SERVQUAL, but it could also overcome the vagueness of expectation concept that occurs in the GAPS model.

- **SERVPERF model:** *Service Quality = Performance*. The most intense criticism of the SERVQUAL scale has come from Cronin and Taylor (1992). Based on the literature review of other researchers, (Bolton & Drew, 1991a, 1991b; Churchill & Surprenant 1982; Woodruff, Cadotte & Jenkins, 1983), Cronin and Taylor argued that the GAPS Model of service quality is supported by little empirical or theoretical evidence. They suggested that service should be measured as perceived performance and not as difference between performance and expectation.

Using earlier work done by Bolton and Drew (1991a), Cronin and Taylor developed a 'performance-based' service quality measurement scale called SERVPERF. Through this model they empirically established that 'performance' instead of 'performance – expectation' is a better measure for service quality. SERVPERF scale's reliability ranged between .884 and .964, depending on industry type, and exhibited both, convergent and discriminant validity better than that of SERVQUAL model. Thus, Cronin and Taylor (1992; 1994) concluded that their performance-based SERVPERF scale was a better method of measuring service quality.

Both SERVQUAL and SERVPERF measures are the most popular tools for examining service quality and have been applied to a wide variety of service industries. Apart from the debate among the researchers on the merits of SERVQUAL over SERVPERF and vice versa, it seems that, on balance, the emerging literature supports the performance-based paradigm over the disconfirmation-based paradigm.

Several of the recent studies in the area of service quality measurement have adopted SERVPERF approach. When the measures are directly compared, SERVPERF has been shown to be more effective than SERVQUAL in assessing the service quality of electronic goods retailers (Mehta, Lalwani & Han 2000) and professional dental services (McAlexander, Kaldenburg & Koenig, 1994). In their study across three service industries Lee, Lee, and Yoo (2000), concluded that the performance model appeared to be superior to the GAPS model.

Brady, Cronin and Richard (2002) re-examined the performance-only concept and they concluded a strong support for its superiority over GAPS model. Similarly, Augustyn and Seakhwa-King (2004) also, reached to the same conclusion that SERVQUAL model is an insufficient measure of quality within tourism and hospitality sectors.

Based on the assessment of several recent studies mentioned above, for this study also, *the performance-based SERVPERF paradigm was adopted to measure the perception of the service user on the various dimensions of cellular service usage.*

2.5 Service Quality, Customer Satisfaction and Behavioural Intention

Service quality and customer satisfaction have been recognized in service marketing thought and practice as a central concept as well as an important goal of all business activities. Many studies have established connections between service quality, customer satisfaction, customer loyalty, and profitability (Grönroos, 1978, 1980, 1982; Parasuraman Zeitham, & Berry, 1985; Reichheld & Sasser, 1990; Sewell & Brown, 1990; Jones & Sasser, 1995; Anderson & Mittal, 2000; Bruhn & Grund, 2000).

Studies also indicate that there are links among customer satisfaction, and behavioural variables such as repurchase intention, intention to switch, word-of-mouth, trust, customer value, price sensitivity, and feedback to the supplier

(Woodside, Frey & Daly, 1989; Bitner, 1990; Boulding, Kalra, Staelin & Zeithaml 1993; Fornell, 1992; Cronin & Taylor, 1992; Anderson, Fornell & Lehman, 1994).

In this study, two behavioural consequences of customer satisfaction have been examined - 'Intention to switch' and 'Intention to recommend'.

- **Intention to Switch** – Researchers have defined 'Intention to switch' as intention to re-patronize a service with the same service provider (Boulding Kalra, Staelin & Zeithaml, 1993; Cronin & Taylor, 1992). It has also been conceptualised as 'Repurchase Intention' of the customer (Bitner, 1990; Bolton & Drew, 1991a; Parasuraman, et al., 1988) or as 'Future Intention' of the customer (Oliver, 1980), or as 'Customer Loyalty' (Fornell, 1992) in the service literature. Whatever may be the term used, the significance of this variable lies in the fact that it is directly associated with customer's switching behaviour.
- **Intention to Recommend** – A satisfied customer has a higher intention/willingness to recommend products to others. From a marketing perspective 'Intention to recommend' can be understood as an informal communication or word of mouth, directed at other customers (Westbrook, 1987). Such communications are likely to come from a group of 'opinion leaders' – (Sheth, 1971), 'apostles' – Jones & Sasser, 1995) and 'true customer' – (Berry & Parasuraman, 1991). Richins, (1983), Scaglione, (1988) and Singh, (1988) have indicated that when customers perceive having experienced inferior service performance, they are likely to engage in complaining behaviour (i.e. exhibiting negative word-of-mouth communications). Thus, the providers of service need to ensure that they deliver high service quality during any service encounter with the customer, so that his perception of satisfaction is high. Recommendations help the organizations to gain new customers through positive referrals at much lower cost than their own marketing efforts.

Over last few decades, different researchers have strived to determine the relationship between behavioural consequences of 'Intention to switch' and 'Intention to recommend' with service quality and customer satisfaction. The following part of the section discusses some of these studies in a chronological order.

- The predictive validity of service quality-satisfaction models in relation to 'Intention to switch' was established by Oliver (1980), Bitner, (1990), and Boulding Kalra, Staelin and Zeithaml, (1993), using the context of different service industries. They propounded that customer satisfaction and service quality are related to switching behaviour.
- Fornell (1992) suggested customer satisfaction as a function of customer expectations and perceived service quality. His model also suggested loyalty as a function of customer satisfaction and switching barriers. According to this model, satisfaction increases customer loyalty and decreases switching behaviour.
- Cronin and Taylor (1992) conducted a study of the relationship among service quality, customer satisfaction and repurchase intention by using their SERVPERF model. The result showed that service quality was a variable preceding customer satisfaction, and customer satisfaction affected repurchase intention rather than service quality. They emphasized that the service organizations should not just focus on a strategy focused to improve service quality, but should work on the enhancement of customer satisfaction.
- Zeithaml, Berry, and Parasuraman, (1996), developed a conceptual framework of the behavioural and financial consequences of service quality. In this model, they used five behavioural constructs viz. loyalty, switch, and pay-more, external response and internal response. According to their model, superior (inferior) service quality causes favourable (unfavourable) behavioural intentions. They concluded that exceeding the adequate-service threshold could sharply increase the payoffs (in terms of fostering customer loyalty and curtailing propensity to switch). The results also established that companies wishing to improve service beyond the

desired service level should do so cautiously and cost-effectively. Finally, the model also, ascertained that favourable (unfavourable) behavioural intentions are associated with customer retention (defection), which in turn is related to positive (negative) financial consequences.

- Bruhn and Grund, (2000), through their empirical analysis established that the main output of customer satisfaction is customer loyalty, and firms with a bigger share of loyal customers profit from increasing repurchase rates, greater cross-buying potential, higher price-willingness, positive recommendation behaviour and lower switching tendency.
- Athanassopoulos, Gounaris and Stathakopoulos (2001), investigated the behavioural consequences of customer satisfaction. Their results supported the notion that customer satisfaction directly affects criterion variables decision to stay with the existing service provider, and engagement in word-of-mouth communications.

It is evident from the above studies, that behavioural intentions of the customer are influenced by service quality and satisfaction. However, over a period of time, two different schools of thought regarding the relationship between service quality, and customer satisfaction have emerged. The question is whether customer satisfaction leads to service quality, or vice versa. Comparing two constructs, Parasuraman, Berry and Zeithaml (1988) conceptualised, perceived service quality as a *long-run* overall evaluation about a service, whereas satisfaction is a *transaction-specific* evaluation. Based on this assumption, they posited that incidents of satisfaction over time result in perceptions of service quality. Other researchers also supported the argument that customer satisfaction leads to service quality. Bolton and Drew (1991b) and Bitner (1990), through their individual research empirically supported the effect of satisfaction on service quality.

In contrast to the above-mentioned perspective, some other researchers argued and empirically supported that perceived service quality is an antecedent of customer satisfaction. Cronin and Taylor (1992) reported in their structural analysis that the coefficients of path for service quality →

satisfaction → repurchase intention appear to be significant. Similarly, Woodside, Frey and Daly, (1989) and Anderson, Fornell and Lehman, (1994) also supported the causal relation of service quality → satisfaction. Further, Spreng and MacKoy (1996) based on their modified Oliver's (1993) satisfaction/service quality model also supported the same notion. In a recent study by Lee, Lee, and Yoo (2000), adopting a similar approach proposed that the customers perceive the service quality based on their experience of service consumption, which then result in satisfaction/dissatisfaction.

As reviewed, mixed findings exist regarding the causal direction between the two constructs. For this study, *notion of service quality as an antecedent of customer satisfaction* has been considered.

2.6 Customer Switching Behaviour

Churn is defined as the switching over of the subscriber from one provider to another. Today, service organizations are concerned about the negative effects of customer switching on market share and profitability (Rust & Zahorik, 1993). In the simplest sense, switching costs a service firm the customer's future revenue stream. But the loss is even more damaging when other effects are considered. First, because loyal customers spend at an increasing rate, leading to purchase efficiencies for service firms (Reichheld & Sassar, 1990) and the loss of a continuing service customer is a loss from the high-margin sector of the firm's customer base. Second, costs associated with acquiring new customers such as new account set-up, credit searches and advertising and promotional expenses can add up to five times the cost of efforts that might have enabled the firm to retain a customer (Peters, 1988).

Review of the related literature reveals a variety of reasons due to which customers might switch services. Customer defection has been related to perception of poor/low quality in the banking industry (Rust & Zahorik, 1993), overall dissatisfaction in the insurance industry (Crosby & Stephens, 1987), and service encounter failure in retail stores (Kelley, Hoffman & Davis, 1993). Citing research on customer loyalty conducted by the Forum Corporation,

Schlesinger and Heskett (1991) noted that two reasons for customer's defection, first, because they were dissatisfied by the quality of the service, second, they judged the service provided to them to be indifferent or unhelpful. This finding supported the observation of Parasuraman, Zeithaml and Berry (1984) that customers' judgements of high and low service quality depend on 'how customers perceive the actual service performance in the context of what they expected'. Susan Keveaney found several key reasons why customers switch to another provider (Keveaney, 1995). Core service failures were identified as the main reason for switching, followed by unsatisfactory service encounters. These findings highlight the importance of delivering service quality and customer satisfaction.

The goal of customer retention strategies is to counter churn. A better understanding of why subscribers churn, gives a better insight to the way customer retention strategies should be focused, and the correct subscriber group they should be targeted at. The next section delineates different customer retention strategies, suggested by different service marketing researchers and those practiced in the industry.

2.7 Customer Retention Strategies

Since the last decade, many companies perceive the retention of the customer as a central topic in their management and marketing decisions (Poel & Larivière, 2004). The emphasis on retention is based on the implicit assumption that there exists a strong association between customer retention and profitability: loyal customers buy more and are less costly to serve (Ganesh, Arnold & Reynolds, 2000; Hwang, Jung & Suh, 2004), whereas replacing existing customer by 'new' ones is known to be a more expensive (Bhattacharya, 1998; Colgate & Danaher, 2000) and risky strategy since it is likely to assume that switched customers are more likely to continue their churning behaviour in the near future (Lewis & Bingham 1991; McNeal 1999).

It is not enough for companies to be skilful in attracting new customers, but they must also have ability to retain them (Kotler, 2001). Since replacing lost

customers comes at an elevated cost, customer defection should be a key performance gauge for senior management and a fundamental component of their incentive programmes (Zeithaml, Berry & Parasuraman, 1996). Proactive customer retention measures help to reduce churn, thus, the service managers need to establish priorities and make strategic choices in a manner that facilitates retention (Farquhar, 2004).

Weinstein and Johnson (1999) recommended that at least 75 per cent of an organization's marketing budget should be spent on customer retention strategies and strengthening relationships. The longer the customers are retained in an organization, the more profitable the organization becomes because of repeat purchases, decreased operational costs, willingness of customers to pay price premiums, and reduced customer acquisition costs (Pine II; Peppers & Rogers, 1995).

The following part of this section looks at the suggestions of the different researchers, regarding the approach that should be adopted to attain effective customer retention.

- Many authors (Zeithaml, Parasuraman & Berry, 1990; Bowen & Lawler, 1990; Schlesinger & Heskett, 1991) have cited the relationship between customer retention and the quality of service experienced by the customer. These studies emphasized, that delivery of high service quality should be the essence of the customer retention strategy framework.
- Reichheld and Kenny (1990) specified six factors as imperative to improving retention: *senior management commitment*, a *customer-focused culture* in which all employees and managers focused their full attention on customer satisfaction; *retention information system* that tracked and analysed the root causes of defections; *empowerment of front-line employees* to take actions that provided immediate customer satisfaction; *continuous training and development*, and *incentive system based on customer retention*.

- Berry and Parasuraman (1991) developed a framework for four different levels of retention strategies (Table 2-2). The framework suggests that relationship marketing can occur at different levels and each successive level of strategy results in ties that bind the customer a little closer to the firm. At each successive level, the sustained competitive advantage is also increased.

Table 2-2 Retention Strategies by Berry and Parasuraman

Retention Strategy Levels	Suggested Measures
Level 1: Financial Bonds	<ul style="list-style-type: none"> • Volume and frequency of rewards, Bundling and cross-selling, Stable pricing
Level 2: Social Bonds	<ul style="list-style-type: none"> • Continuous relationships, Personal relationships, Social bonds among customers
Level 3: Customisation Bonds	<ul style="list-style-type: none"> • Customer intimacy, Mass customisation, Anticipation/innovation
Level 4: Structural Bonds	<ul style="list-style-type: none"> • Shared processes and equipment, Joint investments, Integrated information systems

At *Level 1*, the customer is tied to the firm primarily through financial incentives. Lower prices are offered for greater volume purchases or lower prices for customers who have been with the firm for a long time. Examples for such strategies include the airlines, hotels and car rental companies.

The *Level 2* strategies help the firm to bind their customers further than *Level 1*. Although price is still assumed to be important, level 2 retention marketers build long-term relationships through social and interpersonal as well as financial bonds. Customers are viewed as 'clients', not nameless faces. Social, interpersonal bonds are common among professional service providers such as lawyers, accountants, teachers and their clients as well as among personal care providers (hairdressers, counsellors, health-care providers) and their clients.

Level 3 strategies involve more than financial incentives and social ties. Two commonly used terms fit within the customisation bonds approach: mass customisation, and customer intimacy. Both these strategies suggest that customer loyalty can be encouraged through intimate knowledge of

individual customers and through the development of 'one-to-one' solutions that fit the individual customer's needs. Many of the hotel chains, for instance capture customer's preferences through loyalty programme database, to anticipate the customer choices and needs in advance. Such customers, who become use to this special treatment, may find it difficult to adjust to another provider, who may not be able to customize the service immediately.

Finally, the *Level 4* strategies are the most difficult to maintain, and involve structural as well as financial, social, and customisation bonds between the customer and the firm. Structural bonds are created by providing, customized services to the customers that are technology-based and make the customer more productive. For instance, some airlines have introduced SMS and email alerts for flight delays for their customers. Another example is of cellular operators who provide self-service website access to corporate customers to be able to manage independently their service portfolio and service user information. Once customers have integrated their way of doing things with processes of the service organization, structural bonds are created that link the customer to the firm. This makes it harder for the competitors to draw them away.

- Reichheld (1996) advocated that the customer retention efforts should be targeted towards 'core' customer. These customers should be identified based on three parameters. First they should be loyal and profitable. Second, they should be the ones' who place greatest value on what is offered to them. Third the customers should be more worth to the firm than to their competitors.
- Zeithaml and Bitner (2000) emphasized that service organizations while concentrating on retention strategies often neglect the fundamentals of service delivery and rich service experience. The best way to retain customers is by first providing the services as promised, then ensuring that the service encounters are constantly improved based on the feedback and experience accumulated.

- Jones, Mothersbaugh & Beatty (2000) suggested that a good way to reduce churn is to increase switching barriers. They suggested three types of switching barriers viz., Create strong interpersonal relationships between the employees and the customer, implement high switching costs and study the attractiveness of alternatives, available to the customer and act accordingly.
- Lovelock and Wirtz (2004) established that the service organizations, over a period of time, have developed different mechanisms to handle switching behaviour. These strategies include reactive and proactive approaches. Reactive retention measures include specially trained retention teams, which deal with customers who intend to cancel their accounts. Their main job is to listen to customer needs and issues, and try to address them with the key focus of retaining the customer. Proactive measures include 'Churn-alert systems' which monitor the patterns of individual customers and trigger proactive retention efforts, such as sending a voucher and/or having a customer service representative to call the customer to check on the health of the customer relationship and initiate corrective action if needed.

2.8 Research Framework

In the previous section various aspects of service quality, customer satisfaction, switching behaviour and retention strategies in the existing literature were explored. This section identifies the research gap in the context of this study and describes the empirical framework (study model) adopted to meet the objectives of this study

2.8.1 Research Gap

Customer retention in the recent times has been one of the most sought subjects, in service marketing research. Several studies have been done across different service industries, including financial services (Poel & Larivière, 2004; Farquhar, 2004), retail banking (Rust & Zahorik, 1993; Jones, Mothersbaugh & Beatty, 2002), food service (Berné, Mugica, & M. Jesus

2001), hospitality marketing (Shoemaker & Robert, 1999) and utility services (Monts, Beverly, Lauer & Tessema, 1997). However, the service management literature is short of theoretical and empirical analysis on customer retention, in the context of telecommunication services and especially on cellular service. This is contrary to the growing concern of the cellular operators about high churn rates in the industry and lack of effective retention practices.

Customer retention is the key business issue for telecom operators and effective churn management allows them to stay ahead of competitors, increase profitability and improve customer loyalty (Chorleywood, 2001). The Chorleywood report particularly points out that customer churn in the competitive world of cellular service remains a pressing concern. SAS, a leading churn solution software vendor, has ascertained that, globally, competition has raised the cost of acquiring new cellular customers, making it imperative to the service providers to focus on customer churn (SAS, 2004).

With the growing concern over churn in the cellular industry, some researchers have attempted to understand this rising phenomenon, in the cellular service industry. The following paragraphs give a brief account of some of them. These studies have focused on the aspects of service quality, customer satisfaction, behavioural intentions, switching barriers, and switching behaviour. The studies have been arranged in chronological order, giving details of the authors, market in which the study was conducted and a snapshot of their important conclusions.

Author and market chosen for the study	Important conclusions
Woo and Fock (1999) – Hong Kong market	<ul style="list-style-type: none"> • This study adopted SERVPERF approach, to study the satisfaction determinants among cellular users. • The empirical analysis involved an exploratory factor analysis of 20 cellular attributes. Four attributes envisaged in order of importance (1) transmission quality and network coverage (2) pricing policy (3) staff competence (4) customer service. • The results clearly suggested that service providers should focus more on the network quality as core attributes of their service offering and formulate appropriate pricing policy, rather than competing on customer service and other supplementary services.

Author and market chosen for the study	Important conclusions
Leisen and Vance (2001) – German and US market	<ul style="list-style-type: none"> • In this study, Leisen and Vance conducted a comparative study of service quality in the German and US market, using SERVQUAL instrument. • The results suggested that this five-dimensional instrument seems to be the best fitting model of service quality in the USA as well as in Germany. • The study concluded that the service quality is an important driver of overall satisfaction. However, the study found that there are significant differences between the two countries in terms of the importance of particular service quality dimensions. For the US sample, reliability was the only important dimensions, while for the German sample the important dimensions included reliability, responsiveness, and empathy. • These results suggest that for the design of service quality improvement for US customers should focus on strengthening the reliability dimension, whereas for German customers it needs to include responsiveness and empathy.
Lee, Lee and Feick (2001) – French market	<ul style="list-style-type: none"> • The focus of this study was to investigate the relationship between loyalty, satisfaction and switching cost. • To investigate customer loyalty, they used three variables repurchase intent, resistance to switching to a competitor's product that is superior and willingness to recommend product to friends and associates. Customer satisfaction was measured against variables such as pricing plan, core services (coverage of the calling area and clarity of sound) and Value-Added-Services (precision of billing service and easy access to provider). • The empirical results, showed that customer satisfaction and loyalty are positively linked, and that the switching cost plays a significant role in the switching behaviour of the user. • Based on their findings they recommend that the main objective of customer satisfaction programs should be to increase customer retention rates. Loyalty programs accompanied by well-designed customer satisfaction programs can be effective in increasing customer retention. However, since switching costs are often proportional to the volume of consumption or the purchase frequency, they indirectly strengthen the satisfaction-loyalty link and in turn contribute to increased loyalty and customer retention.
Gerpott, Rams and Schindler (2001) – German market	<ul style="list-style-type: none"> • In this study Gerpott, Rams and Schindler concluded that in the liberalised German market, customer retention, loyalty and satisfaction are important (intermediate) goals for cellular operators on their way to superior economic success. • They also proposed that customer loyalty and satisfaction are causally inter-related. Customer satisfaction influences customer loyalty and customer's intention to terminate/extend the contractual relationship with his cellular operator. In addition, they also found that factors such as price, personal service benefit perceptions and lack of number portability have the strongest effects on a customer's switching intention. However, factors such customer care performance had no significant impact on it.

Author and market chosen for the study	Important conclusions
Johnson and Sirikit (2002) – Thai market	<ul style="list-style-type: none"> • Using the SERVQUAL methodology, Johnson and Sirikit (2002), investigated the dimension of service quality in the Thai telecommunication service industry. • Their analysis showed that telecommunication industry received excellent ratings on tangibles, particularly customer service staff's dress, and low rating on empathy, particularly service providers' interest differences. • Tangible attributes especially the ones related to technical aspects of cellular service extremely influence service quality. • They also concluded that service delivery systems should create positive moments of truth by ensuring that the point of customers' contact is reduced to minimum.
Wang (2002) – Chinese market	<ul style="list-style-type: none"> • This study, explored the relationship between customer overall service quality, customer satisfaction, customer value and behaviour intention. • Based on the empirical analysis, Wang concluded that the Chinese service providers should improve service quality, deliver superior customer value, achieve higher customer satisfaction, and turn behaviour intentions of the customer into positive attitude. • The study also emphasized that improving network quality is the key to higher customer satisfaction and superior customer value. • Among the five SERVQUAL factors, Reliability emerged as the most influential factor to customer satisfaction, for the Chinese cellular service industry.
Kim, Park and Jeong (2004a) – South Korean market	<ul style="list-style-type: none"> • Kim, Park and Jeong conducted this study, when the South Korean cellular service industry was entering a new transition period of implementing MNP. • This research investigated how customer satisfaction and switching barrier influence customer loyalty. • Based on their empirical analysis, they established that, service quality is positively related to customer satisfaction. And that customer satisfaction and switching barriers have a positive effect on customer loyalty. • The factors with a significant impact on customer satisfaction include call quality, Value-Added-Services, and customer support. • They reached to a conclusion that the cellular operators need to maximize customer satisfaction and the switching barriers in order to heighten customer loyalty.
Kim, Park and Jeong (2004b) – South Korean market	<ul style="list-style-type: none"> • Kim, Park and Jeong, conducted another study wherein they analysed the effect MNP has on customer's switching intention on a basis of dissatisfaction, switching cost, switching promotion and switching prevention. • The study concluded that regardless of the introduction of MNP, the core factor influencing customer's switching intention is the dissatisfaction regarding price and call quality. • They established that availability of MNP increases the customer's switching intention. Thus, the service providers need to take measures to minimize customer defection.

Author and market chosen for the study	Important conclusions
Kim, and Yoon (2004) – South Korean market	<ul style="list-style-type: none"> • This study by Kim and Yoon focused on identifying the determinants of subscriber churn and customer loyalty in the Korean cellular market. • Based on their results they reached to conclusion that the switching behaviour of the customer is dependent on the level of satisfaction with specific service attributes including, call quality, tariff level, handsets, brand image, as well as income, and subscription duration. • However, only factors such as call quality, handset type, and brand image affect customer loyalty as measured by the intention/non-intention to recommend the service provider to other people. • They also concluded that, the lock-in effects are likely to be concentrated only among the 'spuriously loyal' customers who are not willing to churn because of switching costs.
Aydin and Ozer (2005) – Turkish market	<ul style="list-style-type: none"> • In this study Aydin and Ozer examined the relationships among factors such as corporate image, perceived service quality, trust, switching cost and customer loyalty in the Turkish GSM cellular market. • Based on the results of analysis, Aydin and Ozer concluded that factors such as corporate image, perceived service quality, trust and customer switching costs are the major antecedents of customer loyalty. They also concluded that that trust is the most important determinant of customer loyalty. Even though perceived service quality and perceived switching cost seemed to have the same level of effect on customer loyalty, the switching cost should be considered as an important factor.

It is evident from the above listed studies that, most of them have been done in the Asian cellular markets. This may be attributed to the fact that this part of the world has been more recent in adopting cellular technology as compared to the west. Even though in US and Europe the markets have already matured and stabilized, the Asian markets are still witnessing tremendous growth and high churn rates.

The central theme that emerges out of these studies is that, the service quality and customer satisfaction is positively related. Customer satisfaction, consequently, is a driver for positive behavioural intentions related to switching intention and recommendation. Another common conclusion of these studies is that, the performance of cellular network is the key antecedents of customer satisfaction and switching behaviour. Other

antecedents vary from country to country depending on the maturity of market, customer demographics, cultural differences and demand of service.

While most of these studies have researched the central theme in the context of US, European, and Asian market, however, no such studies have been conducted in the Indian context with specific focus on exploring effective customer retention strategies. This study contributes to fill this gap.

Moreover, the present studies have focused on understanding customer switching behaviour, by only analysing the customer's perspective and have not investigated service providers' view. To design and implement effective customer retention strategies a good understanding of the customers' switching behaviour and the existing retention practices of the service providers is very important. Without understanding both sides of the equation and analysing the existing disparity between them, it is difficult to get a holistic view of the situation.

In the context of the above-mentioned research gaps identified by scanning the extant literature on the subject, the following diagram captures the research approach adopted for the purpose of this study (Fig. 2-1).

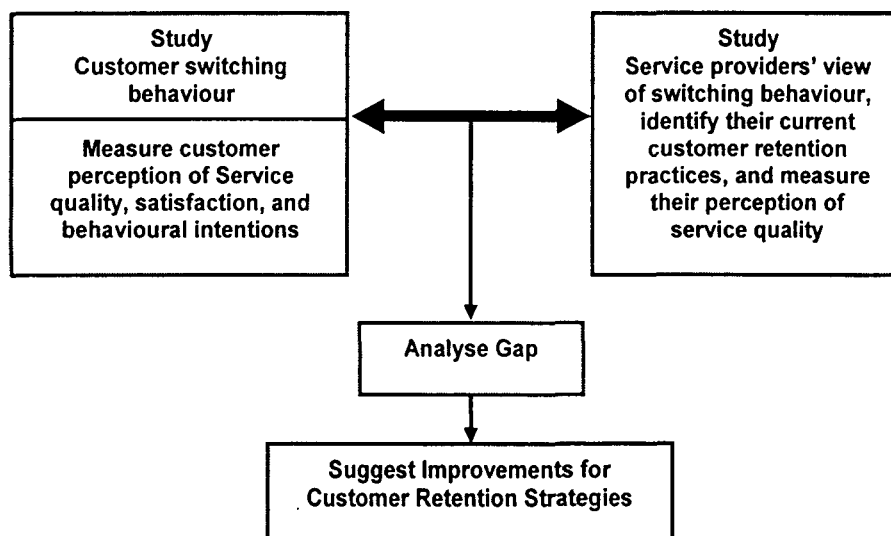


Fig. 2-1 Research Approach adopted for this Study

The research approach takes into consideration the various dimensions explored by different researchers from the customer's point of view and has added the component of the service provider's view. As part of this approach, from the customers' perspective, the following dimensions were reviewed: –

- Churn and loyalty trends.
- Relationship between service quality and customer satisfaction.
- Relationship between customer satisfaction and behaviour intention (expressed as intention to switch and intention to recommend).
- Measuring the performance and importance of different aspects of cellular service as perceived by the cellular users.
- Identifying the influencing factors for customer satisfaction and intention to switch.

The above-mentioned dimensions were conceived to comprehend the actual situation on the ground, regarding customers switching behaviour and to identify important ingredients for an effective customer retention strategy. Similar to the customers' views, the service provider's view was also examined on the following aspects: –

- Customer switching behaviour.
- Churn management processes employed.
- Customer retention strategies adopted.
- Measuring the service providers' perception of their own performance and importance on the same aspects of cellular service as assessed by their customers.

The above-mentioned dual approach, adapted for this research, to study the customer's perception and to investigate the service provider's view, was considered valuable because of four reasons. Firstly, this approach gives a better understanding of switching behaviour in the market. Secondly, it helps to understand, the effectiveness of current retention practices of the service provider and their approach to manage churn. Thirdly, it also helps to narrow

down on specific areas where the service providers need to strengthen their retention practices and adopt new ones. Fourthly, the identified perception gap will help to realign the service strategies adopted by service provider as per the expectations of the customer.

2.8.2 Model and Hypotheses

Based on the integrated approach required to study customer retention, discussed above, and in line with the research objectives, a study model was created (Fig. 2-2). This proposed study model captures the empirical framework of the study. It is divided into two parts: on one the hand, is the study of the cellular customers and on the other is the investigation of their service providers.

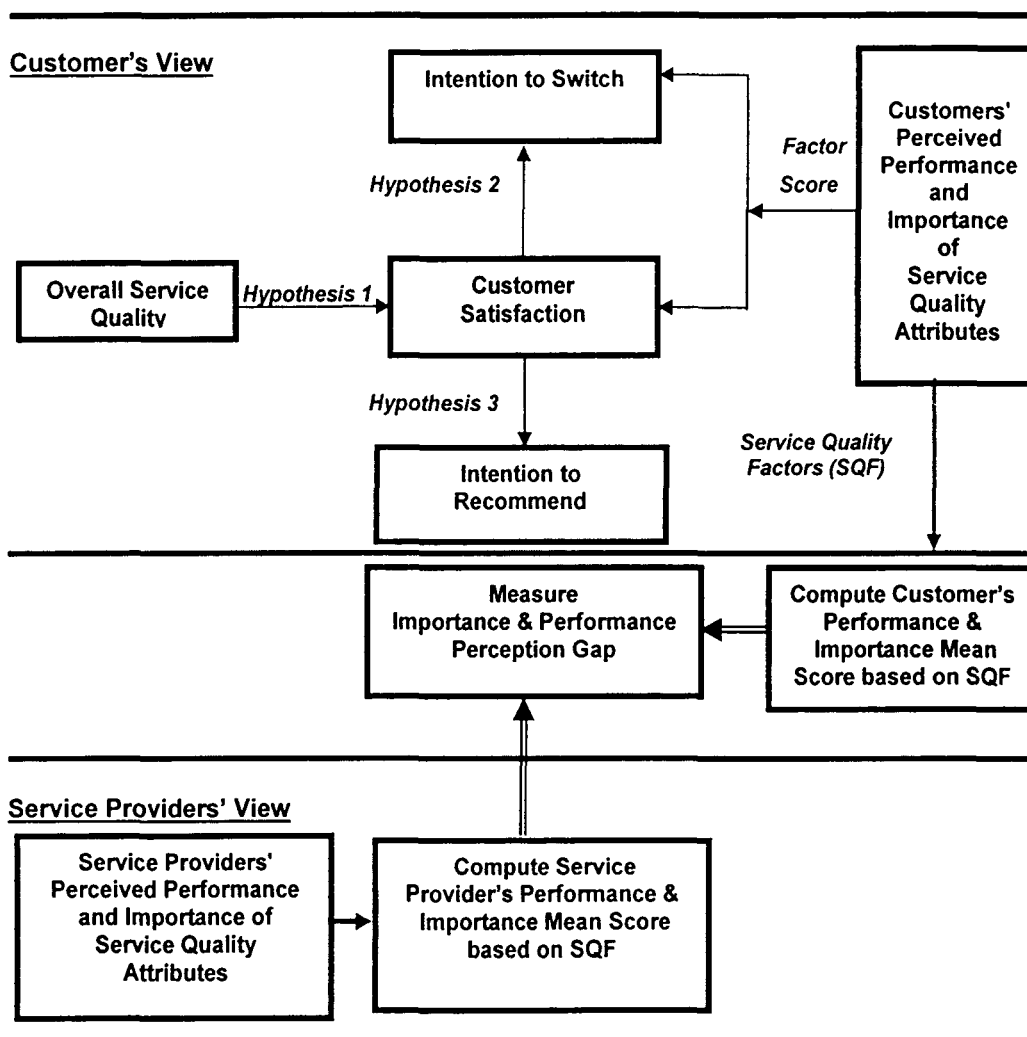


Fig. 2-2 Study Model Adopted for this Study

The study model highlights three dimensions of the customer's perception to be investigated (Fig 2-2). First part constitutes three hypotheses to be tested involving constructs, namely, 'Overall service quality', 'Customer satisfaction', and behavioural intentions expressed as 'Intention to switch' and 'Intention to recommend'.

The second part involved measuring the customer's perception of service quality being delivered. The perception of service quality was evaluated by means of 26 cellular service quality attributes, on their perceived performance and the importance. As part of data analysis, the next step was to apply the statistical technique of factor analysis. The goal of this exercise was basically to reduce the number of variables from 26 to a few meaningful, manageable and parsimonious sets of service quality factors. The third part of the analysis was to identify the influence of these factors on constructs of 'Customer satisfaction' and 'Intention to switch'.

As depicted in the study model, the service providers' perception of their own performance and importance was also measured. The same set of 26 service quality attributes were employed, as that used for measurement of customers' perception. Further, in order to comprehend the perception gap between the service providers and the customers, the difference of their importance and performance mean scores based on the service quality factors are examined.

Hypotheses for the study

Three hypotheses were framed, to study the applicability of the causal relationship between variables 'Overall service quality', 'Customer satisfaction', 'Intention to switch' and 'Intention to recommend'. Establishing the relationship between these constructs is important, to establish the right ingredients for deriving effective customer retention strategies.

- **Hypothesis 1** – The relationship between overall service quality and customer satisfaction is well established (Woodside & Daly, 1989; Cronin & Taylor 1992; Anderson & Sullivan, 1993; Spreng & Mackoy, 1996).

These studies state that overall service quality is a driver for customer satisfaction, and that there is a positive causal relationship between them. In specific regards to cellular service industry, it was also found to be applicable by Kim, Myeong-Cheol and Dong-Heon (2004a), and Wang (2002). To test this causal relationship, in the context of Indian cellular service industry the following hypothesis is proposed.

H1: The higher the overall service quality perceived by a customer, the higher will be the customer satisfaction.

- **Hypothesis 2** – Several studies have examined the association between customer satisfaction and switching behaviour. Woodside (1989) and Cronin and Taylor (1992) stated that there was a significant causality between customer satisfaction and repurchase intention. Customers experiencing a high level of satisfaction are likely to remain with their existing providers and maintain their subscription (Jones, Mothersbaugh, & Beatty, 2002).

The reasoning behind customer switching behavioural responses has been related to perception of quality and customer satisfaction in the banking industry (Rust & Zahorik, 1993), and overall dissatisfaction in the insurance industry (Crosby & Stephens, 1987). Gerpott, Walfgang and Schindler, (2001) verified this relationship in the context of German cellular industry. In line with the research objectives of this study, the following hypothesis, examines if the cellular service switching behaviour (conceptualised and measured, as 'Intention to switch'), is a result of lower customer satisfaction.

H2: The higher the level of customer satisfaction, the lower will be the intention to switch.

- **Hypothesis 3** – When a customer makes a positive mention of the organization, this indicates his higher satisfaction. Parasuraman, Berry and Zeithaml (1988, 1991) indicated that when customers' perception of

service quality is high, they are willing to recommend the company to others. Reichheld and Sasser (1990) also supported this conclusion. Further, Boulding, Kalra, Staelin & Zeithaml (1993) and Anderson (1998) found that customer satisfaction relates positively to saying positive things regarding the company to others. Thus, enhancing customer satisfaction drives positive word of mouth from the satisfied customer. To test this premise, the following hypothesis was proposed: –

- **H3:** The higher the level of customer satisfaction, the higher will be customer's intention to recommend.

2.9 Summary

The extant literature available related to the subject related to this study has been reviewed in this chapter. Service quality has increasingly been recognized as a critical factor in the success of any business (Parasuraman et al., 1988). It has emerged as an important management objective as it relates to costs (Crosby, 1979), financial performance (Buzzelle & Gale, 1987), customer satisfaction (Spreng & Mackoy, 1996), customer retention (Reichheld & Sasser, 1990), and differential competitive advantages (Lacobucci, Grayson & Ostrom, 1994).

Parasuraman et al. (1985) revolutionized the concept of assessing service quality by introducing their GAPS model of service quality. The GAPS model introduced a five-dimension SERVQUAL model for measuring service quality. Over the years, SERVQUAL model has been applied to a wide variety of service industries, however, it has also been criticized, for its operational and theoretical issue (Carman, 1990; Babakus & Boller, 1992; Brown et al., 1993). The biggest criticism of SERVQUAL model came from Cronin and Taylor (1992). They developed a 'performance-based' service quality measurement scale called SERVPERF and empirically established its superiority over GAPS model. Other researchers have supported this as well (Mehta, Lalwani, et al., 2000; McAlexander et al., 1994; Lee, et al., 2000). Based on their conclusions, this study also adopts SERVPERF approach for measuring cellular service quality.

Service quality and customer satisfaction have been linked to behavioural intentions, in several studies in the extant literature (Woodside, Frey & Daly, 1989; Bitner, 1990; Boulding Kalra, Staelin & Zeithaml 1993; Anderson, Fornell & Lehman, 1994). In scope of this study, two behavioural consequences of customer satisfaction were explored – 'Intention to switch' and 'Intention to recommend'. Studies show that customer satisfaction is linked to both these behaviours (Fornell, 1992; Cronin & Taylor, 1992; Zeithaml et al. 1996; Bruhn & Grund, 2000; Keveaney, 1995).

Increasing churn rates and growing significance across the service industry have lead researchers to focus on developing frameworks for effective customer retentions strategies. Berry and Parasuraman (1991) suggested a four level retention model, which focuses on creating bond with the customer, using financial, social, customisation and structural bonds. Other researchers such as Zeithaml et al. (1990), Brown and Lawler (1990), Zeithaml and Bitner (2000) and Jones et al. (2000) suggested service organizations to focus on delivery of high service quality, high customer satisfaction, and increasing switching barriers as the necessary components of customer retention strategy.

In context of this study, three major research gaps were identified. First, the available studies on the cellular service industry focused on issues of service quality, customer satisfaction and switching behaviour, however, they have not addressed the subject of customer retention strategies. Second, these studies have focused on understanding of churn, by only concentrating on the customers' side of the story and have not investigated service providers' view. Third, the subject of customer retention studies in the context of Indian cellular service industry still remains unexplored.

Based on the above research gaps, a research approach and a study model for this study was conceptualised, that took into consideration, both customer and service provider's view. From the service providers' perspective, their understanding of switching behaviour of its customer was to be examined and review of the existing customer retention practices adopted by them. As per the study model, four components of the empirical analysis required for this study, were identified. Firstly, to analyse customer's churn and loyalty behaviour Secondly, three hypotheses were proposed to study the relationship between service quality, customer satisfaction and behavioural intentions – 'Intention to switch' and 'Intention to recommend'. Thirdly, to derive a more compact view of the 26 service quality attributes as measured by the respondent customers. And identify their influence over customer satisfaction and customers' Intention to switch. Fourthly, identify gap in the perception of service quality, between the service providers and customers.

CHAPTER 3 – RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

3.2 Research Design

3.3 Research Plan

3.4 Data Collection

3.5 Data Analysis

3.6 Classification Data

3.7 Summary

Chapter 3 – Research Design and Methodology

3.1 Introduction

This chapter describes the research design and methodology used for conducting this study. The chapter has been organized in four sections. The first section, 'Research Design' details the three phases of this research. The second section, 'Research Plan' describes the development of research instruments for both, customer and service provider survey, including the design of cellular service quality attributes used in them. Further, in this section, the sampling procedure adopted for customer survey has been explained. The third section, 'Data Analysis' provides a brief description of the tools and statistical techniques used for investigating the data. The last section, 'Classification Data' examines the profile of the respondent customers and their service providers.

3.2 Research Design

This research is quantitative in nature and has been conducted in three phases, namely, 'Research Framework Development', 'Data Collection' and 'Data Analysis'. The first phase of the research design concentrated on developing the research framework required to meet the research objectives of this study by reviewing the extant literature. Based on the review of literature, the research gap related to this study was identified. This was then, followed by designing an appropriate research approach, which lead to the conceptualisation of a study model. This model encapsulated the hypotheses and the framework for empirical analysis, required for this study.

Based on the above-mentioned groundwork, two research instruments were developed, one for the cellular customers, and the other for their service providers. Both the instruments were finalized based on the results of a pilot survey. At the end of the first phase, the sampling plan required for the customer survey was also developed.

During the second phase, the finalized questionnaires were administered to collect primary data from the customers and the service providers. In the third phase, the data collected was compiled for statistical and qualitative analysis in line with the research objectives. Wherever required the customers' and service providers' responses were compared, along with equating the results with previous studies. The findings of this phase led to draw appropriate conclusions for the study.

3.3 *Research Plan*

A research plan is set of planned activities that must be carried out to conduct a research. This section elaborates on the various components of this plan. These include the data sources used for this study, the development of cellular service quality attributes and their testing, design of customer and service provider questionnaires, and sampling plan constructed for customer survey.

3.3.1 Data Sources

Various sources of secondary data were examined in the course of this research. Journals, articles, publications by industry associations and regulatory authorities, research-based books, and research projects were reviewed in order to obtain a better perspective of the research problem. Specific studies done on similar subjects, particularly in the area of cellular service industry were examined. Wherever necessary, primary data relating to both, service providers and cellular service users were supplemented with the information from secondary sources of data such as industry forums, national and global forums of the cellular industry, world telecommunication agencies, research groups, academic and industry associations and groups. Study papers, websites and press releases of TRAI, the Cellular Operators Association of India (COAI), and other industry associations, regulatory authorities Ministry of Communication, Govt. of India, and individual service providers were reviewed to understand the current trends and practices of the industry.

3.3.2 Development of Cellular Service Quality Attributes

One of the components identified in the study model was to measure the perceived quality of cellular service being delivered. To achieve this, a detailed list of cellular service quality attributes was required. An initial list of 22 attributes was prepared based on SERVQUAL model proposed by Parasuraman Berry & Zeithaml (1988). This list included items from its five original dimensions, 'Tangible', 'Reliability', 'Responsiveness', 'Empathy', and 'Assurance'. These items were refined, paraphrased in wording, and modified as appropriate to suit the purposes of the present research.

Next, exploratory research was conducted to obtain a list of service quality attributes specific to cellular service usage. Similar studies done by other researchers in this area were conferred (Woo & Fock, 1999; Gerpott, Rams & Schindler, 2001; Lee, Lee & Feick, 2001; Leisen & Vance, 2001; Wang, 2002). At the end of this process, a draft list of 36 service quality attributes was compiled. The draft list of cellular service quality attributes was further reviewed with two service providers and five post-paid cellular service users. The objective of this assessment was to further customize this list according relevance and importance of the service quality attribute to the Indian cellular industry. Based on their inputs, a list of 26 attributes was filtered. These attributes were finalized on the basis of the results of the pilot survey. Table 3-1 lists the final 26 service quality attributes, along with service quality dimension they represent.

The final list of 26 service quality attributes represented different aspects of cellular service, namely, '*Corporate Image*' (2 attributes), '*Advertisement and Promotion*' (4 attributes), '*Dealer/Retailer/Showrooms*' (3 attributes), '*Procedures and their Convenience*' (1 attribute), '*Core Service*' (5 attributes), '*Billing and Payments*' (3 attributes), '*Customer Care and Support*' (6 attributes), '*Pricing*' (1 attribute), '*Tariff Plans*' (1 attribute). Some of these attributes also reflected the five dimensions of service quality as conceived by the SERVQUAL model.

Table 3-1 List of Cellular Service Quality Attributes

SQ No.	Service Quality Attribute	Service Quality Dimension**
SQ1	Provider with high reputation	Corporate Image
SQ2	Provider strives for building relationship and is committed to subscriber needs	Corporate Image
SQ3	Provider keeps you well-informed about sales promotion schemes	Reliability /Advertisement and Promotion
SQ4	Provides attractive sales promotion schemes as compared to competitors	Advertisement and Promotion
SQ5	Provides complete and correct information about products and services	Reliability /Advertisement and Promotion
SQ6	Advertisements are effective in purchase decision	Empathy /Advertisement and Promotion
SQ7	Ease of locating dealer/retailer	Dealer; Retailer; Outlet
SQ8	Ability of retailer to provide complete information on the tariff plans	Reliability /Dealer; Retailer; Outlet
SQ9	Promptness, courteousness of the salesperson	Responsiveness /Dealer; Retailer; Outlet
SQ10	Process for getting subscription and termination	Procedure; convenience
SQ11	Network availability	Core Service
SQ12	Quality and clarity of voice	Core Service
SQ13	Range of coverage	Core Service
SQ14	Availability of roaming service	Core Service
SQ15	Availability and performance of Value-Added-Services	Core Service
SQ16	Ease of reading and understanding the bill	Tangible /Billing
SQ17	Accuracy of billing	Reliability /Billing
SQ18	Ease of accessing payment location	Payment location
SQ19	Customer care representatives shows real interest in solving problems	Assurance /Customer Service Centre;
SQ20	Ease of getting through to customer care /helpline	Reliability / Customer Service Centre; Helpline
SQ21	Service support staff have sufficient knowledge	Assurance /Customer Service Centre; Helpline
SQ22	Whenever something is promised, it happens in a certain time	Reliability /Customer Service Centre
SQ23	Politeness and courteousness of the service staff	Assurance /Customer Service Centre
SQ24	Provider is keeping accurate records	Reliability /Customer Service Centre
SQ25	Appropriateness of tariff plans and service packages	Tariff Plans
SQ26	Appropriateness of pricing	Pricing

**Note – The items in bold in this column equate, to the five service quality factors, 'Tangible', 'Assurance', 'Reliability', 'Empathy', and 'Responsiveness' as proposed by the SERVQUAL Model.

3.3.3 Research Instruments

This section describes the two research instruments that were used to collect the primary data. Initially a draft version of the instruments was prepared, which was further refined based on interviews conducted with two service providers and five service users. In addition, opinion of a number of academicians was sought. Their suggestions included changes in the sequencing and wording of questions in the instruments. The feedback also included, important dimensions of cellular service usage and customer switching behaviour that need to be taken into consideration. Based on these suggestions, necessary changes were incorporated and the final draft of the questionnaires was prepared. The reliability of the instruments was tested by a pilot survey of 50 cellular users and two service providers in January 2004. Based on the results of the survey, the instruments were further refined and finalized. In the following paragraphs each of the instruments is discussed in detail.

- **Instrument for Customer Survey** – Structured, non-disguised, self-administered, questionnaire with close-ended questions was used in the customer survey. This questionnaire consists of three sections (refer Appendix 4 – Customer Survey Questionnaire).

Section 1: Data about Service Provider and Service Usage – This section was designed to draw a better understanding of the switching behaviour of the cellular users in the past, and their switching intention in the future (Question 1-6, 10). Closed-ended responses were listed, to capture the reasons of their switching preferences (Question 5, 10). This section also captures the following four variables required for testing of the three hypotheses developed for this study:

1. Perception of Overall Service Quality (Question 7): A single-item, seven-point scale (1–7) was used to measure the overall perception of the service users for the service quality delivered, with possible values ranging from 'Very Poor' to 'Excellent'.

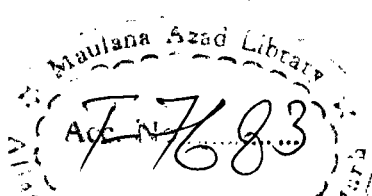
2. Perception of Customer Satisfaction (Question 8): A single-item, seven-point scale (1–7) was used to measure customer satisfaction, with possible values ranging from 'Very Unsatisfied' to 'Very Satisfied'.
3. Intention to Recommend (Question 9): A single-item, four-point quantitative scale was used to measure recommendation with values ranging from 'Definitely' to 'Definitely Not'.
4. Intention to Switch (Question 10): A single-item, binomial scale consisting of 'Yes' or 'No' responses was used to measure the likelihood of the customer to switch in the future.

Finally, in this section, four additional close-ended questions (11–14) were listed. These questions related to the participation of the customers in satisfaction/feedback surveys, rewards given by the service provider for customer's loyalty, the service provider willingness to suggest suitable tariff plan, and ability of the service provider to utilize the customer database information.

Section 2: *Measuring Service Quality Attributes' Performance and Importance* – This section primarily focused on measuring the respondent customer's perception of the service quality being delivered, based on a list of 26 cellular service quality attributes. For each of these attributes the respondents were required to rate on a Likert scale of 1–7 ('Low' to 'High') the perceived performance of their service provider and the perceived importance they associate with the attribute.

Section 3: *Classification Data* – This section was designed to collect demographic data regarding the respondent service user.

- **Instrument for Service Providers** – The questionnaire for service providers was non-disguised, semi-structured and interview based (refer Appendix 3 – Service Provider Questionnaire). It consists of three sections described below.



Section 1: *Classification Data* – This section comprised of questions to collect classification information about the individual service provider.

Section 2: *Customer Switching Behaviour and Retention Practices* – The questions in this section were meant to understand the service providers' perception about the growth, competition and churn trends in the Indian cellular industry. Besides, these aspects, questions related to their current practices of churn management, and customer retention practices and their effectiveness were also covered.

Section 3: *Measuring Service Quality Attributes' Performance and Importance* – This section was a replica of Section 3 of the Customers' questionnaire. Service providers were asked to rate their own performance for the 26 service quality attributes on the Likert scale (1–7), and also rate the importance of each of the attributes.

3.3.4 Reliability Test for Service Quality Attributes

A preliminary Reliability test was done to check the internal consistency of the scale for the 26 service quality attributes, both during the pilot survey and the actual survey. During the final survey, the Cronbach's alpha coefficient was computed and the standardized value was found to be 0.926 (refer Appendix 2, Table A-4 Reliability Test Results for Service Quality Attributes). The Cronbach's alpha coefficient can range from 0.0 to 1.0 and reflects the strength of the relationship between items within a scale. According to Schuessler (1971) and Hair, Anderson, Tatham and Black (1994), a scale is considered to have good reliability if it has an alpha value greater than 0.60. Therefore, the value of 0.926 obtained for the reliability test for this study is considered to be good, meaning that the internal consistency of the scale is high and reliable.

3.3.5 Sampling Plan

There are in total 14 cellular operators offering cellular service in India, under the licences awarded to them to operate in various circles by the Department

of Telecommunications, Government of India. All the cellular customer of these service providers thus, constitutes the population size or the universe of this study.

There is no published Indian cellular subscriber phone directory available, similar to fixed-line phone directories. Thus, cellular service providers were approached to provide cellular customer data to conduct the survey. Out of the 14 operators available, nine operators agreed to give list of their customers, and participate in the study. The lists given by the service providers consisted only of individual post-paid subscribers belonging to the National Capital Region (New Delhi and adjoining areas), and parts of Punjab and Haryana states. The service providers did not share the data of their corporate and VIP customers.

A usable database of 87,500 cellular customers was compiled based on the lists obtained from the nine cellular operators, which constituted the sampling frame for the study. The data in the list provided by the service operators contained the customer's name, address, e-mail (if available), and their cellular phone number. Once the sampling frame was finalized, the next step was to choose a sample of appropriate size. As recommended by Comfrey and Lee (1992), a sample size of 450–550 respondents would be appropriate for such a study. Since the customer information was received directly from the service providers, it was considered highly accurate. With this, assumption a response of 18–20% was expected by administering the questionnaire through mail.

Based on the above parameters a sample size of 2,500 was decided to be appropriate for this study. The following sampling procedure was adopted to obtain a systematic random sample of 2500 customers.

- **Sample size:** 2,500 (n) to be chosen from a combined customer list of 87,500 (N)
- Thus, **Interval size** k ($k = N/n$), $(87,500/2,500) = 35$.
- A random integer 9 was drawn from 1 to 35.

The combined list of 87,500 customers was compiled in Microsoft Excel. Based on the logic described above every 9th row (customer) was selected to draw a systematic random sample of 2500 customers. These 2500 list of customer was then used for the primary data collection.

3.4 Data Collection

The primary data was collected using the research instruments developed for this study. The survey work started in July 2004 and ended in December 2004. During this period the cellular service user data was collected through mail, using non-disguised, structured questionnaires. The service providers' data was collected interviewing the senior-level managers directly responsible for customer retention in the organization.

The questionnaires were then, sent by mail to all these subscribers. They were also contacted personally through phone, e-mail and SMS requesting them to participate in the survey and fill up the questionnaire. Non-respondents were followed up and reminders were sent. At the end of the customer survey process, a total of 615 questionnaires were received, thus, accounting for 24.5 per cent response rate. These survey forms were then, filtered on the basis of the completeness of information filled-in by the respondents. Ultimately, 545 usable questionnaires were identified for the final data analysis.

3.5 Data Analysis

The data collected from the respondent customer and service provider survey was entered in the statistical package SPSS 10.00 for the purpose of conducting the required empirical analysis. Before entering the data in the package, it was prepared for analysis by coding and editing. The following paragraphs give a brief snapshot of the various techniques used data analysis.

- **Analysis of Customer Data** – Different statistical tests and other tools were applied for analysing the data obtained. These are described below.
- A) **Churn/Loyalty Analysis** – For the analysis of Section 1 of the questionnaire, frequency tables and cross-tabs were prepared and interpreted. These methods helped to identify and analyse the switching trends and differences between different groups of customers. In many cases, besides the overall analysis, a drill down analysis was performed based on three categories, circle (metro/non-metro), ownership (private/PSU), and technology (CDMA/GSM).
- B) **Customer Switching Behaviour Analysis** – In addition to the statistical methods described above, two other analytical methods were used. These are 'Did Change vs. Will Change Analysis' and 'Customer Satisfaction – Loyalty Matrix'. In the first method, a four-quadrant matrix was prepared using the two binomial variables, 'did change to current service provider' (Yes/No) and 'Intention to switch' (Yes/No). The second method of analysis was based on the four-quadrant analysis proposed by Jones and Sassar (1995). As per this method a four-quadrant matrix was required to be developed. For this 'Customer satisfaction' score of the each respondent customer was translated to (High/Low) and plotted against 'Intention to switch' (High-Likely to switch, Low-Not likely to switch).
- C) **Deriving service quality factors** – Exploratory Factor Analysis (EFA), with principal components was conducted on the 26 service quality attributes using varimax rotation. This analysis was used to examine the interrelations among the service quality attributes and to summarise them into a small number of factors.

Preliminary tests to determine the appropriateness of factor analysis were conducted using Reliability Test, Item-To-Total Correlation Test, Bartlett's test of sphericity and the Kaiser–Meyer–Olkin Measure of Sampling Adequacy (MSA).

The Cronbach's alpha coefficients score in the Reliability test analysis measure the internal consistency of the multi-item scales. According to Schuessler (1971), the alpha value should be greater than 0.60. In factor analysis, some degree of multi-collinearity is expected, since the objective is to identify interrelated sets of variables. The purpose of Inter-Item-Correlation test is to determine the relationship of a particular multi-item item to the rest of the items in a particular dimension. According to Hair et al. (1994), if the value of the coefficient of correlation among all the variables is greater than 0.30, then factor analysis is considered to be appropriate. Bartlett's test of sphericity is a statistical test for the presence of correlations among variables. A significant value Bartlett's test of sphericity is required for assessing the appropriateness of the factor analysis solution (Hair, Anderson, Tatham & Black, 1994).

The Kaiser–Meyer–Olkin MSA index, which can range from 0 to 1, indicates the degree to which each variable in a set is predicted without error by the other variables. If the MSA index reaches 1, each variable is perfectly predicted by the other variables without error. According to Hair et al. (1994), a value of 0.50 or more from the Kaiser–Meyer–Olkin MSA test indicates that the data is adequate for factor analysis.

Based on the results of the Exploratory Factor Analysis, the identified factors were grouped logically and appropriate nomenclature was formed.

D) Hypotheses testing – The hypotheses involving overall service quality, customer satisfaction, behaviour intention in terms of intention to switch and intention to recommendation was tested using the following statistical tools: -

Regression Analysis – It is a method for determining the association between a dependent variable and one or more independent variables. In this study it was used for testing degree and direction of relationship between the variables used in the hypothesis testing.

Correlation Analysis – The purpose of correlation analysis is to measure the strength of the relationship between two variables. The correlation coefficient cannot be greater than 1 or less than -1. As defined, correlation is a number between +1 and -1 that reflects the degree to which two variables have a linear relationship.

Gamma Analysis – This analysis is also known as Goodman and Kruskal's gamma test. It is described as a symmetric measure, which varies from +1 to -1. It is a tool to measure the association i.e. to test the strength of relationship in case of ordinal bivariate data.

- **Identifying the determinants of Customer Satisfaction and Intention to Switch** – One of the components of the empirical analysis of this study was to identify the service quality factors, which influence customer satisfaction and switching intention. Two methods were used for this purpose, Regression Analysis and Discriminant function analysis.

Discriminant function analysis is used to determine which variables discriminate between two or more naturally occurring groups. This analysis was used to identify the discriminating service quality factors between switchers and non-switchers. In this study, the standardized canonical discriminant function coefficient test was conducted using stepwise method. The coefficients of discriminant function for the variables obtained in the discriminant function matrix should be significant for its appropriateness.

- G) **Importance-Performance Analysis** – In order to investigate the key areas, where the service providers should concentrate, Importance-Performance analysis (IPA) was conducted. IPA is a tool for understanding customer satisfaction as a function of 'Importance' and 'Performance', as perceived by the customer based on the salient attributes of the service being delivered to them (Martilla & James, 1977). IPA's simplicity and visual approach to analysis make it a useful tool to identify the critical measures for strategy redesign.

- **Service Providers' Data** – Based on the interviews conducted with the nine service providers, the data was compiled primarily using tabular and graphical analysis. This analysis was applied to compile churn figures, reasons for customer switching behaviour and retention measures, using the data collected during service provider's interview. In addition, the importance and performance scores of the service providers were used to understand the gap in their perception and that of their customers.

Perception gap analysis (Service Provider, Customer) –The average scores of the respondent service providers' perception about their own performance and the importance they associate with 26 service quality were computed. These were then, summarized on the basis of the six service quality factors, which emerged during the factor analysis. Similar computation was also done for the respondent customers. Using these summarized average scores, the performance gap between the service providers and the customers was analysed on the basis of their difference, in value. In the same way, the importance gap was analysed on the basis of their difference in ranking of the summarized average scores.

3.6 Classification Data

The data of the respondent customers and service providers was classified to understand their profile and background. In this section, the profile of the respondent service providers and customers has been examined. In addition some statistics related to the consumption pattern of the respondent customers has also been presented.

3.6.1 Profile of the Respondent Service Providers and Customers

- **Distribution of Service Providers by Subscriber base and Revenue Growth** – In terms of total market share at industry level, Bharti Tele-venture (brand name AirTel) is the leading cellular service operator with 10.98 million subscribers (Table 3-2) followed closely by Reliance (10.45 million) and BSNL (10.16 million).

Table 3-2 Profile of Respondent Cellular Service Providers

Service Operator	Has been in the Market Since	No. of Subscribers ending FY 2004-05 (All-India, in millions)	Private /PSU	Type of Service offered in Delhi, Punjab and Haryana
Bharti Tele-venture	1995	10.98	Private	GSM
BSNL	2002	10.16	PSU	CDMA
HFCL	2003	0.05	Private	CDMA
Hutch	1995	7.8	Private	GSM
Idea	2002	5.07	Private	GSM
MTNL	2002	0.95	PSU	CDMA
Reliance	2002	10.45	Private	CDMA
Spice	1997	1.44	Private	GSM
Tata Teleservices	2003	1.09	Private	CDMA

Cellular service started in India in 1995, and operators like Bharti Tele-venture and Hutch have been in the market since its inception. Out of the nine operators, included in the study, BSNL and MTNL are PSU¹⁶ operators and all the rest are private operators. In the region where this study was conducted, Reliance, Tata Teleservices, BSNL, HFCL and MTNL are offering CDMA service, whereas Bharti Tele-venture, Hutch, IDEA, and Spice are offering GSM service. The total revenue of service providers and their changes in growth percentage over FY 2004-05 and FY 2003-04 indicates that Bharti Tele-venture is ranked first, and followed by Hutch (Table 3-3).

Table 3-3 Distribution of Respondents by Revenue Growth

Rank	Company/Group	Revenues ¹⁷ (Rs crore)		Growth in percentage
		FY 2004-05	FY 2003-04	
1	Bharti Tele-venture	5,436	3,261	67
2	Hutch	4,365	2,701	62
3	Reliance Group	4,089	2,571	59
4	BSNL	3,700	1,984	86
5	Idea Cellular	2,409	1,663	45
6	Spice	706	520	36
7	Tata Teleservices	523	253	107
8	MTNL	287	187	53
9	HFCL Infotel	10	12	17

Source: VOICE & DATA (2005) July 12 (1), 40

¹⁶ PSU: Public Sector Undertaking. Mahanagar Telephone Nigam Limited (MTNL) and Bharat Sanchar Nigam Limited (BSNL) are owned and operated under Government of India.

¹⁷ The revenue shown in this table is the total revenue of the company or the group, and not just revenue from the cellular service that they offer.

In India, GSM service was launched first in year 1995, and CDMA service in the year 2002. GSM operators are currently leading the market with 78.4 per cent over CDMA, who have a share of 21.4 per cent (*Voice & Data*, 2005). In spite of entering late in the market, CDMA operators managed to gain their market share quickly. GSM however, still remains the popular choice for Indian masses.

- **Distribution of respondent customers by location** – Figure 3-1 shows that, a majority of the respondent customers belong to the nation capital and the region around it – New Delhi (52%), Gurgaon (1.7%), Ghaziabad (1.4%) and NOIDA (3.7%). Rest of the respondents belong to parts of Punjab and Haryana.

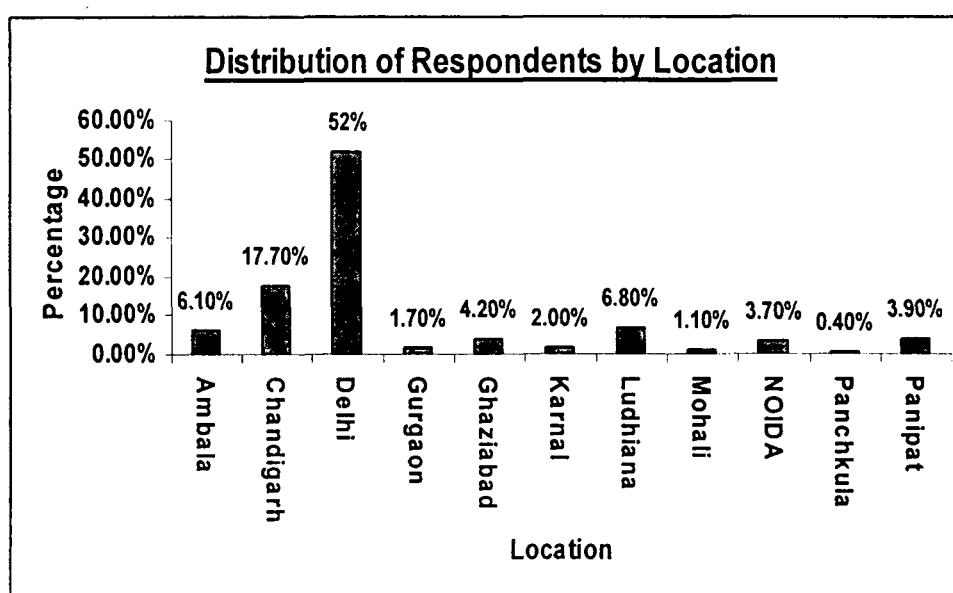


Fig. 3-1 Distribution of Respondents by Location

As is evident from the spread of the sample data, the reach of cellular telephony is quite widespread and cellular penetration has moved beyond big cities. It is not just concentrated along the urban areas but has also reached the shores of semi-urban towns. Besides the capital region, the respondents represent various other urban and semi-urban cities and towns, including Ambala, Chandigarh, Ludhiana, Mohali, Panchkula, and Panipat. This can be attributed to the explosive growth witnessed in the last decade, since the inception of cellular service in India.

- **Distribution of respondent customer by service provider** – Table 3-4 shows the distribution of respondents by service provider. Bharti Tele-venture subscribers represent the most (27.9%) followed by Hutch (18.5%) and Spice (12.5%). The lowest number of responses was received from HFCL subscribers (0.7%).

Table 3-4 Distribution of Respondents by Service Provider

Service Operator	% of Respondents
Bharti Tele-venture	152 (27.9%)
BSNL	57 (10.5%)
HFCL	4 (0.7%)
Hutch	101 (18.5%)
Idea	51 (9.4%)
MTNL	47 (8.6%)
Reliance	52 (9.5%)
Spice	67 (12.3%)
Tata Teleservices	14 (2.6%)
Total	545 (100.0%)

- **Distribution of respondent customer by category including Circle, Ownership and Technology** – The sample shows good representation of Metro vs. Non-Metro, 52 per cent and 48 per cent respectively (Table 3-5). The sample is comprised of both, CDMA (19%) and GSM (81%) cellular service users.

Table 3-5 Distribution of Respondents by Category

Category	Number of Respondents	Percentage of Total
Metro	285	52
Non-Metro	260	48
GSM	439	81
CDMA	106	19

- **Distribution of respondent customer by gender** – The gender ratio was 72 per cent males to 28 per cent females (Table 3-6). It shows that the post-paid cellular service is popular between both the genders.

Table 3-6 Distribution of Respondents by Gender

Gender	Total Respondents (Per cent)
Male	393 (72.1%)
Female	152 (27.9%)
Total	545 (100.0%)

- **Distribution of respondent customer by age** – The age group of respondent customer indicated that the majority of the respondents belong to the 21–30 years age category (53.5%), followed by 31–40 year age group (23.64%) and the rest is distributed across other age group. It is evident that the post-paid cellular service is popular among all age groups (Fig. 3-2).

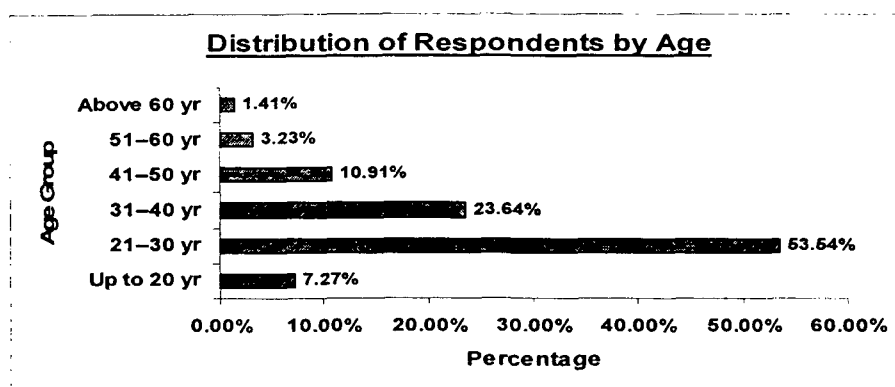


Fig. 3-2 Distribution of the Respondents by Age

- **Distribution of respondent customers by occupation, education, status in household, and income** – Figure 3-3, illustrates the distribution of sample by their occupation.

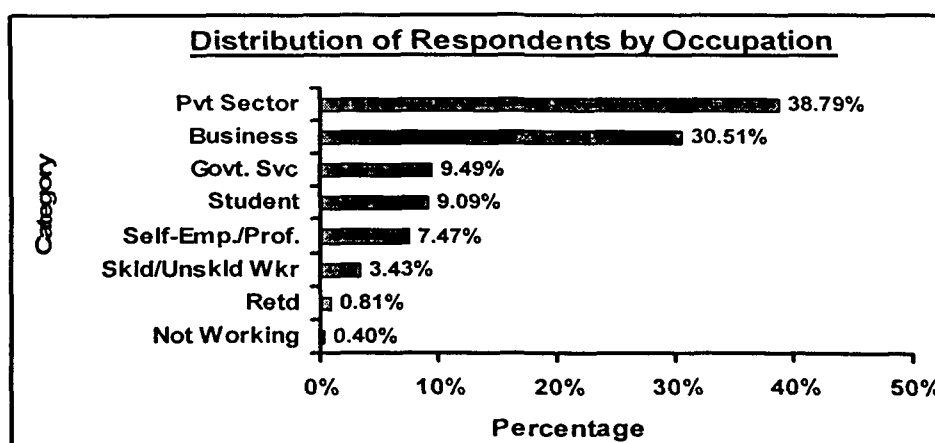


Fig. 3-3 Distribution of Respondents by Occupation

The frequency distribution of respondents by occupation indicates that in the sample the private sector and business category are represented the most, with figures of 38.79 per cent and 30.5 per cent respectively (Fig. 3-3). The rest are distributed among other categories (Fig. 3-3).

Looking at the distribution of the respondents by education level reveals overwhelming majority of them (98%) have at least completed their high school education (Fig. 3-4).

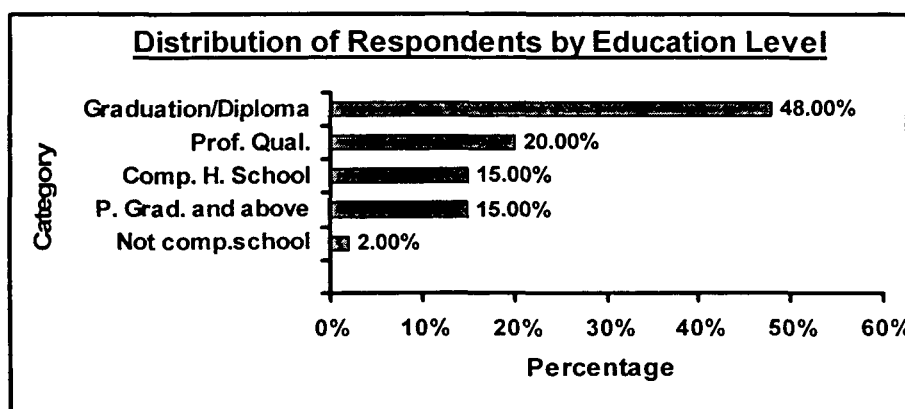


Fig. 3-4 Distribution of Respondents by Education Level

The household break-up also shows that today cellular service is no longer a luxury but, an affordable and essential requirement of all social classes. Even customers with monthly below Rs. 6,000 are able to afford a post-paid service. Among the higher-income group, the percentage of cellular service users is higher (Table 3-7). About three-quarter of the respondents are earning Rs. 10000, higher.

Table 3-7 Distribution of Respondents by Monthly Household Income

Monthly Household Income	Percentage of Respondents
Up to Rs. 6,000	4.38
Rs. 6001–10,000	6.82
Rs. 10,001–14,000	16.51
Rs. 14,001–20,000	22.13
Rs. 20,001–30,000	24.87
Rs. 30,000+	25.29
Total	100.00

3.6.2 Consumption Pattern of Respondent Customers

- **Distribution by purpose of usage** – The respondents' data reveal that a high majority of them (61.41%) use cellular phones for both, personal and business purposes (Table 3-8). 34 per cent of respondents use them exclusively for personal purposes and the rest 4.8 per cent respondents use cellular phones exclusively for business or official purposes. This confirms the common view that cellular phones are being preferred as a means of communication, and are being used extensively for both, business and personal use.

Table 3-8 Distribution by Purpose of Usage

Purpose	Percentage of Respondent
Personal	33.74%
Business	4.85%
Both	61.41%
Grand Total	100.00%

- **Distribution by average monthly usage bill** – The distribution of respondents by average monthly usage bill indicates that three-quarters of them (75.05%) spend less than Rs. 1,000 on the average monthly bill. About 44 per cent of these are in the range of Rs. 500–1,000 (Fig. 3-5) and about 31.03 per cent of respondents, have a monthly usage bill of less than Rs. 500.

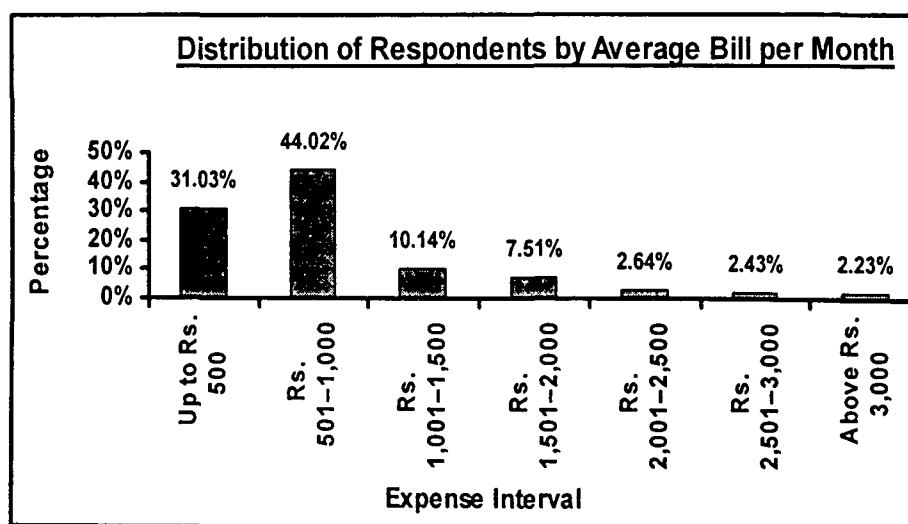


Fig. 3-5 Distribution of Respondents by Average Bill per Month

3.7 Summary

This chapter details the research design and plan used for conducting this research. The research objectives of this study were developed on the basis of research issues identified and thorough review of literature related to this study. This research is quantitative in nature was conducted in three phases, namely, 'Research Framework Development', 'Data Collection' and 'Data Analysis'.

As part of the first phase two research instruments were developed, one for customer survey and the other for service providers, using the existing literature and inputs from a small group of service providers and service users. Structured, non-disguised and close-ended questions were used in the service users' research instrument. For the service providers a non-disguised, semi-structured and interview-based research instrument was designed. A pilot survey was conducted, based on which the research instruments were finalized.

As part of the instrument development process, 26 cellular service quality attributes were designed to measure the perception of customers and service providers. Cronbach's alpha coefficient was computed, to test the reliability of the scale for the service quality attributes. The standardized value was found to be 0.926, meaning that the internal consistency of the scale is high and reliable. Based on the sampling procedure adopted for this study, a sample of 2,500 post-paid individual customers was drawn using systematic random sampling from a combined list of 87,500 customers provided by the nine service providers.

In the second phase primary data required for this study was collected. The customer survey was administered through mail. The nine service providers were interviewed personally. A total of 615 questionnaires were received, out of which 545 usable questionnaires were used for the final data analysis was obtained. In the third and the final phase, of this study, empirical analysis was

performed. This data analysis was carried out using SPSS 10.0. Various statistical techniques were used for analysing the data. These include factor analysis, regression, correlation, Gamma analysis, and Discriminant function analysis. Besides these tests, three other tools were used for customer data analysis. These were Importance-performance analysis, 'Did change vs. Will change' analysis and 'Customer Satisfaction-Loyalty' matrix.

The classification of the 545 respondents' revealed a cross-section of Indian cellular users. In terms of geographical area, 52.5 per cent of the respondents were from New Delhi, the rest were belonged to NCR region, and parts of Punjab and Haryana. The gender ratio in the data was 72 per cent males to 28 per cent females. The sample showed a good representation of Metro vs. Non-Metro, 52 per cent and 48 per cent respectively. The sample comprised of both, CDMA (19%) and GSM (81%) cellular service users. The age group distribution of the sample indicated that the majority of the respondents belong to the 21–30 years age category (53.5%). The rest is distributed across all age groups.

On the basis of occupation, the sample comprised of private sector (38.79%), business (30.5%) and the remaining from other job category. In terms of educational background, a very large majority of the respondents had a minimum qualification of high school. 11 per cent of the respondent customers were with monthly income below Rs. 10,000 and residual to higher income categories. A look at the consumption pattern of the respondents discloses that a majority of them (61.41%) use phone for both personal and business use. Also majority of the respondents (75.05%) spend less than Rs. 1,000 as their average monthly bill.

CHAPTER 4 – CURRENT CUSTOMER RETENTION PRACTICES

4.1 Introduction

4.2 Outlook of the Indian Cellular Industry

4.3 Churn Management – Service Provider's view

4.4 Customer Retention Initiatives

4.5 Impediment to Effective Retention Practices

4.6 Summary

Chapter 4 – Current Customer Retention Practices

4.1 Introduction

This chapter, along-with the next two chapters, present the results of the surveys undertaken, to understand the customer's switching behaviour and how the service providers are trying to retain them.

The purpose of this chapter is to study the orientation of Indian cellular industry, and review the churn management and customer retention practices being followed. The chapter has been divided into three sections.

The first section provides an overall perspective of the Indian cellular industry, as it stands today. It highlights, the triggers responsible for the phenomenal growth in the industry, and also, indicates how the dynamic market scenario is elevating the importance of customer retention. The two sections that follow encapsulate the churn management practices and the customer retention initiatives undertaken by the industry. The chapter concludes with a discussion on the barriers, which prevent the service providers from adopting effective customer retention approach.

4.2 Outlook of the Indian Cellular Industry

The Indian cellular industry has undergone rapid growth and the significance of customer retention has grown along with it. The following paragraphs present the respondent service providers' view about these changes.

4.2.1 Exponential Growth in the Industry

In 1996, the cellular service was introduced in India, taking telecom industry to the next paradigm. Until then, Indian subscribers had access to fixed-line service only. Getting a phone was a distant dream, because of its limited availability. All this changed, with the introduction of cellular telephony.

Initially, the acceptance of the cellular service was dawdling, because both, the service charge and the cost of cellular handsets, was very high. Nevertheless, all this changed after the implementation of the National Telecom Policy in 1999, and the constitution of the Telecom Regulatory Authority of India (TRAI). With the policy and direction set-up by TRAI, the cellular subscriber growth soon saw a phenomenal surge.

According to the study paper published by TRAI (TRAI, 2005a), there has been an explosive growth in the Indian cellular subscriber base, since 2001. In December 2002, India reached the major milestone, of 10 million cellular subscribers. Subscriber growth continued from 2002–03, and by end of December 2003, there were close to 22 million subscribers. The growth rate in the GSM segment during 2003 touched nearly, 200 per cent. At the end of financial year 2004–05, the cellular subscriber base figure stood at 52.2 million. This high growth rate primarily shows a very high adoption rate of cellular telephony by Indian masses within a very short span of time. Many factors have contributed to this phenomenal growth, and the key growth drivers that influenced it are listed below:

Growth drivers for cellular telephony in India

- Vast geographic expanse and large middle-class population
 - Limitation of fixed line telephony service
 - Lowered call tariffs
 - Government and TRAI initiatives and policies
 - Nationwide roaming and SMS facility
 - Introduction of CDMA as a cheaper alternative
 - Availability of affordable handsets
 - Localization of cellular handsets and multilingual cellular services
 - Availability of new services and application
-
- **Vast geographic expanse and large middle-class population** – Vast geographic expanse of India has acted as a catalyst to the demand for cellular phones. The phenomenal growth is also happening because of the huge middle-class population, which is estimated to be 300 to 350 million (Ramachandran, 2004). Cellular service has fast moved from a class service to a mass service – fuelled by continuously falling tariffs and increased coverage.

- **Limitations of fixed-line telephony service** – Fixed-line service had been mainly a state run monopoly, and getting a telephone connection was not easy. Inability to get a quick connection has boosted subscribers to opt for cellular service. In terms of infrastructure, fixed-line services have limited reach and establishment cost is too high as compared to cellular service. Moreover, setting up of the cellular telephony infrastructure is much cheaper and faster. Thus, it emerged as a popular alternative technology.
- **Government and TRAI initiatives and policies** – Like any other sector Indian telecom sector also had monopolistic practices till mid 90's. The continued liberalisation policies of the government thereafter have changed it, to the present day aggressive private vs. public sector competition. The national telecom policy was launched in 1999, with a vision to enlarge the scope and reach of telecommunication in India. The Telecom Regulatory Authority of India (TRAI) was set-up to monitor and regulate this industry.

Since its inception, TRAI has introduced major measures to induce competition, making it feasible for cellular telephony to become a choice of the masses. In order to provide major impetus to the industry, in 2001-02, third and fourth cellular operator's licences were allowed in each cellular circle. This period, also saw, the introduction of CDMA service, which was launched as a cheaper alternative to GSM service. Along with this, the sale of handsets in instalments was also allowed (TRAI, 2005a). These policies, pursued by TRAI and government, acted as a catalyst in increasing cellular growth in India. Besides, these initiatives, TRAI, has also been responsible, in addressing issues relating to quality of service, interconnectivity among providers, disputes between operators, and regulation of tariffs plans. Resolving these issues has helped in building the right environment for growth. TRAI continues to act in the best interest of the industry, and moreover, keeps in view, the larger interest of the cellular customers.

- **Lowered call tariffs** – Many factors have contributed towards reducing the call tariffs of cellular telephony in India. The credit for this goes to the liberal government policies, and the efforts of TRAI to facilitate this reduction. Cellular operators have made best use of these initiatives, and passed on the benefits to the end-user – making the cellular service cheaper and affordable.

Cellular call charges have been spiralling down drastically, since 1998. With the implementation of CPP (calling party pays) Model, in April 2002, the incoming cellular calls were made free. Coupled with this, in 2003, TRAI facilitated huge reduction in forborne charges (TRAI, 2005a). As a result of these changes, today the gap between the call charges of fixed-line and cellular service is constantly declining.

Narrowing gap of call costs between fixed and cellular services convinced more customers to subscribe to cellular connections. Customers, who were once reluctant to subscribe to cellular subscription because of its high cost, now found it, to be more affordable. The major advantage of mobility, which cellular service provided, further, acted as a crucial deciding factor. Consequently, a large number of subscribers started opting for it.

- **Nationwide roaming facilities** – One of the distinct advantages, of cellular telephony was the ability of the service providers to give nationwide roaming and SMS facilities. These facilities were major incentives for both, personal and business users. The service providers offered special services to meet the requirements of geographically distributed corporate customers. Services such as 'Closed User Group' connectivity helped such customers, to interconnect themselves, thereby increasing their communication channels to 24X7, efficiency, and productivity. For individual subscribers too, freedom of mobility coupled with connectivity from anywhere in India was a big incentive, to adopt cellular telephony in a big way.

- **Introduction of CDMA as a cheaper alternative** – After a lot of legal and political hassle, CDMA service was introduced, in 2002. This was much against the wishes of GSM operators, as the CDMA licences fees and operational cost were lower than that of GSM operators, giving the CDMA operators distinct cost advantages.

Once introduced, CDMA operators positioned their service as a cheaper alternative to GSM. Private operators like Reliance and Tata Teleservices targeted middle and lower income groups by offering low-entry priced bundled offers. These offers caught the imagination of the common man, inducing a huge surge in cellular demand¹⁸. The CDMA operators understood that, the need of common man was, only to make and receive calls, which they could offer at low cost and affordable prices.

Even in its limited capability, CDMA offered three advantages – Mobility, SMS facility, and Internet. Thus, CDMA, emerged as key competitor to GSM and changed the landscape of cellular telephony in India

- **Availability of affordable handsets** – Reduced cost of handsets has been a major trigger for cellular growth in India. In the past, it was one of the most dissuading factors, for low acceptance of cellular telephony, as the cost of the handsets was very high. With increasing demand, government took major initiatives by drastically reducing the customs duties on the imported handsets, thereby reducing the handset cost (TRAI, 2005a).

The cellular growth in India also prompted major cellular phone manufacturing companies such as Nokia, LG., and Samsung to set-up their manufacturing and assembly plants in India. This resulted in the availability of affordable handsets and better after-sales support. Using this opportunity, both, the private and PSU service operators, tied up with these companies to offer bundled low cost instalment based subscriptions.

¹⁸ Reliance launched their campaign 'Monsoon Hungama', selling 1 million connections in ten days, http://www.relianceinfo.com/Infocomm/html/aboutus/aboutus_business_wireless.html

- **Localization of cellular handsets and cellular services** – Cellular manufactures not only offered customized low-end handsets with Indian customer in mind, but also designed new phones to provide multilingual capability on handsets (Hindi, English and other regional languages). With this, the operators enhanced the services like SMS being offered in many Indian languages. This increased the acceptance of cellular phones in India, particularly in the semi-urban and rural areas.
- **Availability of new services and applications** – Today, cellular telephony is not only used for voice communication, but also as a device to facilitate information, entertainment, and business.

Content and Data based services have made news, information, ringtones, music, entertainment, and gaming, travel guide, location-based services, and dial-in services available at the push of a button. Latest GSM technologies like multimedia messaging (MMS), GPRS, EDGE and Blackberry¹⁹ are already available to Indian subscribers. This has made the data based applications to be utilized in big way, due to the availability of Internet and email services via cellular service.

Today, cellular phones in India have emerged as a new business and marketing platform. Availability of new services like railway booking, job search, exam results, buy and sell services, dial-in services, mobile banking, stocks and other commerce applications have given new meaning to the way Indian customers do their daily business. Different application vendors are designing new multimedia packages, including video clippings of songs, TV programmes, films and other promotional items and offering it to the customers.

¹⁹GPRS –The General Packet Radio Service (GPRS) is a non-voice, Value-Added-Services that allows information to be sent and received across a mobile telephone network. This service lets service users to access Internet services and also to send/receive data at higher speed.

EDGE - Enhanced Data Rates for Global Evolution further enhances the GPRS data service and allows users to transfer data with higher speeds of between 100K bps (bits per second) and 130K bps.

Blackberry - The Blackberry service gives a user a constant wireless connection for emails calendaring, address book, to-dos and the internet

4.2.2 Growing significance of Customer Retention, in the Industry

The cellular service industry has witnessed in the past four years many changes in terms of demand, competition, technology, regulation, government policies, acquisition and mergers, and customer expectation.

These changes reflect the dynamic nature of the industry, and emphasise on the growing importance of customer retention in this changing environment.

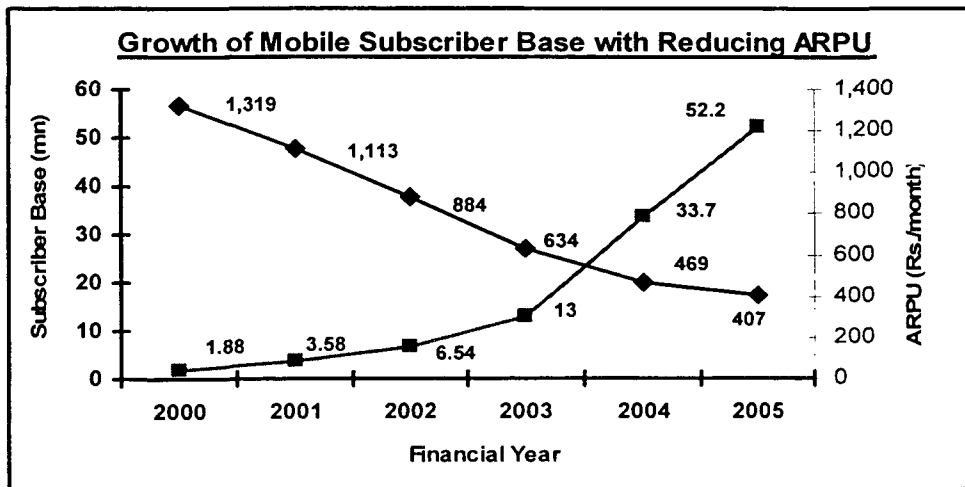
The key contributors to this change of focus are listed below: –

- **Shrinking urban market areas** – Most of the respondent service providers perceived that the market potential in the upper segments of socio economic classification (SEC)²⁰ is shrinking (SEC-A and SEC-B). However, the growth potential of market still lies untapped in the lower socio-economic segments of population (SEC-C and SEC-D).

More than urban, the semi-urban and the rural areas, have greater potential of increasing market share. In the urban areas, customer acquisition is now becoming difficult therefore the service providers are now focusing on specific market skimming strategy, in order to increase their market share. As per this strategy, they are now targeting specific market segments like women, teenagers, and corporate customers in order to increase their market share with ever-increasing competition. In this changing market environment, service operators need to address segments having higher potential of growth. Such effort will require different marketing mixes, investments and revamping of overall corporate strategy. Customer retention, thus, becomes an important consideration for the service providers, as they need to ensure that their existing subscriber base remains intact and driver for profitability. If they are able to provide the existing subscriber the desired level of service, it will give them better opportunity to acquire new customer at lower acquisition cost and cheaper marketing efforts.

²⁰ SEC - Social Economic Classification, is method of categorization of the population based on various economic and demographical parameters (refer Appendix 5).

- **Decreasing ARPU** – In the last six years, the turnover growth has increased by nine times, despite the ARPU falling by more than three times, from Rs. 1319 to Rs. 407. This has happened because the subscriber base during this period has increased from 1.88 million to 52 million about 30 times (Fig. 4-1).



Source: Study Paper No. 2/2005, 'Indicators of Telecom Growth' TRAI India

Fig. 4-1 Indian Cellular Subscriber Growth vs. ARPU (FY 2000 – FY 2005)

The following calculations illustrates the revenue increase,

Period	ARPU X Total subscriber base X 12 Month	Total Revenue
FY 2000	$1319 \times 1.88 \times 10^6 \times 12$	= ~ Rs. 2975 crores
FY 2003	$634 \times 13 \times 10^6 \times 12$	= ~ Rs. 9890 crores
FY 2005	$407 \times 52.2 \times 10^6 \times 12$	= ~ Rs. 25500 crores

As evident, over the last few years, the cellular operators have been very focused on acquiring new customers in order to build up their profitability, in the environment of decline ARPU. The primary reason for decrease in ARPU is because of lowered call tariffs. This decline is a big worry for the operators, as it hits their bottom-line and triggers a change in their revenue model. Because of the dwindling ARPU, it is imperative for service providers to achieve lower customer churn rates, cost optimisation through higher productivity and efficiency. Defection of customers acts as revenue leakage, despite the growing subscriber base. Thus, customer retention needs to be of higher strategic focus, as the loyalty of the customers will enable revenue growth and higher profit margins and lowered cost of operations.

- **Growing impact of high churn figures** – According to Gartner the churn rate in the Indian cellular industry is 3.5–6 per cent, which is one of the highest in the Asia Pacific region (*CellularNews*, 2003). IDC in their annual issue of July 2005 reported an annualised figure of 8–10 per cent of total subscriber base (*Voice & Data*, 2005). These figures clearly indicate a rise in the switching behaviour of customers²¹.

Taking into account IDC's churn figure of 10 per cent for FY 2005, and ARPU of Rs. 407 with a total cellular subscriber base of 52.2 million (TRAI, 2005a) as discussed in the previous paragraphs, it can be concluded that 5.2 million subscribers would churn every year. With these figures it would lead to a huge potential revenue loss of Rs. 2550 crores to the industry. As is evident from these figures, the financial impact of churn is significantly contributing to the growing importance of customer retention in the Industry.

- **Advantages to CDMA operators** – GSM operators have a distinct disadvantage of a higher sunk cost, since the licence fee charged from them by the government was higher than what CDMA operators paid later. Because of the cost differential, CDMA operators were able to change the market dynamics by offering cellular service at much lower cost, since their investment was low. This gave the CDMA operators a competitive advantage, and they positioned themselves for the mass market. CDMA service offers basic cellular service along with some additional features, which fulfils the basic requirements of most common users. In comparison, GSM provides full national and international roaming, and additional advanced features and data services, which are not available in CDMA. With an eye on the mass-market lower segment of users, CDMA is giving GSM operators a run for their money. In order to maintain their market share and dissuade their subscribers from switching over, GSM operators need to constantly revise their pricing, marketing strategy and service positioning.

²¹ The figure of the total churn includes both post-paid and prepaid service users.

- **Private vs. PSU Operators** – PSU service operators have an advantage over private operators because of their existing network and operational capabilities. This infrastructure includes national, as well as, international backbone connectivity, and huge fixed-line network covering a wide geographical area. These capabilities give the PSU's leverage, in operating at much lower costs, and to be able to provide their cellular services at lower price as compared to private operators.

PSU operators have positioned themselves as low-cost, low-margin players, and operate with no hidden charges like private players do, thereby making them a popular choice among middle and lower-income subscribers. Private operators have to constantly meet the challenge of PSU operators in order to compete with them as operator for the masses. On the other hand, given the added benefits the PSU operators have, they still have not been able to leverage from their advantages. PSU are finding the going tough, as private operators are growing much faster. In many areas of competition, they are having a hard time in trying to save their businesses, as more subscribers are showing preference for private operators. The PSU operators have additional pressure to meet the national commitment of being able to make cellular services available in rural areas. The private operators are still shying away from their commitment to expand into rural areas, as they would like to operate and invest only in those areas where the profit margins are higher.

Private operators have the advantage over PSU's as being more professional and efficiently run units. PSU operators have constraints of bureaucracy and government guidelines for operations, which impact upon their response to market forces. Private operators are more aggressive in marketing, have better customer care, and flexibility of operations and decisions. These factors give them an edge over PSU operators. Presently, the private operators are better oriented towards effective churn management practices as compared to PSU.

In summary, both, private and PSU operators have distinct advantages of different kind over each other. Both of them use their individual strengths to counter competition from the other. Since stakes due to competition are high, all the service providers across the industry need to pay constant attention to customer retention.

- **Market consolidation through acquisitions** – 18 GSM cellular service providers operated in India in the year 2001. But by 2005 only nine operators were left in the market. The bigger players consolidated their market share by acquiring smaller operators. Initially Aircel acquired RPG Cellular; later Aircel itself was acquired by Hutch. Hutch also acquired some other smaller players including Sterling Cellular, Hutchison Essar, Aircel Digilink, and Hutchison Max Telecom. Similarly, Idea acquired Escotel and AirTel acquired Hexacom.

Bigger private operators acquired smaller players to optimise their cost and scale of operations, so that they could counter low-tariff CDMA operators. Increased competition, soaring churn rate, towering operational costs, higher expectations of customers, decreasing ARPU and growing investment demand of business resulted in disappearance of the smaller players. The existing smaller and regional players need to maintain very high customer satisfaction in order to ensure that their customers do not defect when other big players acquire their competitors.

- **Competitive pricing** – The mobile market has been going through dynamic change. Reduction in forborne tariffs, introduction of third and fourth cellular operator's licences, unified licensing scheme, launch of low-cost CDMA service, and acquisition strategy of big operators have led to change in the dynamics of the industry. These changes have led to price wars and competitive pricing, thus, benefiting the end-user. Today the subscribers have a wide variety of choices, making them vulnerable to switch at the first opportunity.

According to respondent service operators, cheaper and suitable tariff plans is one of the main reasons for subscribers switching over to other operators in this dynamic price-sensitive market. Thus, to protect their current subscriber base, the service providers need to continuously, innovate lower price plans. This will help them to maintain their competitive advantage and effectively retain their existing customers.

- **Rising customer expectation and changing behaviour** – Today, Indian subscribers have more choices, increased awareness, and therefore, higher bargaining power. They are intolerant to poor quality and inefficient service. The changing demands and versatile nature of subscriber conduct, signifies the growing importance of effective customer retention strategies. In order to adopt effective customer retention strategies, it is important for the service providers to have an in-depth understanding of subscriber's switching behaviour and constantly judge the pulse of their expectations. Failure to do so, in time, results in high attrition rate. Hence the service providers are constantly looking for new ways to draw a better understanding of customer satisfaction levels and areas of service improvements.

4.3 Churn Management – Service Provider's view

Today, churn is one of the single most important factors responsible for loss of revenue for the Indian cellular service provider. Till recently churn and its management was not an immediate concern of service providers as the market size was huge and their customer base had been growing at greater rate than expected.

All this has changed in the last four years, and the market scenario has changed dramatically, with the emergence of new competitors and cheaper technological options, decreasing ARPU, increasing customer acquisition cost. This has forced the service providers to take churn management as a strategic issue.

The following sections summarise various aspects relating to churn, as understood and described by the respondent service operators.

4.3.1 Churn Figures

Generally, in the global cellular service industry, churn is calculated either on monthly or annual basis. As a basic definition, the monthly churn is defined as following: –

$$\text{Monthly Churn} = (C0 + A1 - C1)/C0$$

Where, *C0* = the number of customers at the start of the month, *C1* = the number of customers at the end of the month, and *A1* = the gross new customers during the month.

However, measurement of churn across Indian cellular service industry is not standardized. Currently there is no statutory requirement for the service providers to report their churn figures. Therefore, even though, these figures are monitored internally within the organization, but are not publicly available. In the absence of a common guideline, all the service providers' workout these figures, using their own criteria, best suited to their advantage.

The respondent service providers provided their current total churn figures only in approximate range. They expressed their constraint about sharing the exact details of these figures, as churn figures are considered to be competitor-sensitive information. Based on the information derived from them, the average monthly churn rate for post-paid subscribers ranges between 3 and 5 per cent. All the respondents confirmed that there has been a rise in switching behaviour since 2002 because of the changing market dynamics.

Churn, in the industry is divided into two broad categories: *Voluntary churn* is when the subscriber informs his service provider to discontinue the service; *Involuntary churn* occurs when the subscriber defects abruptly without informing. Table 4-1 summarises the figures provided by the respondent service providers for involuntary and voluntary churn figures expressed as cumulative ratio of the total churn.

Table 4-1 In-voluntary vs. Voluntary Churn

Service Provider	(In-voluntary) expressed as % of Total Churn	Success Rate of Defection Turnaround (In-voluntary Churn)	(Voluntary) expressed as % of Total Churn	Success Rate of Defection Turnaround (Voluntary Churn)
HUTCH	60%	Not available	40%	Not Available
IDEA	60-70%	70%	30-40%	20%
AIRTEL	60%	50%	40%	40% of total
HFCL	70%	60%	30%	70%
RELIANCE	80%	25%	20%	40%
SPICE	70%	60	30%	30-40%
MTNL/BSNL	Not Available	Not available	Not Available	Not Available
TataTele-Services	80%	60%	20%	30%
Average	60-70%	54%	30-40%	40%

At an aggregate level, on an average, involuntary churn constitutes of 60–70 per cent of the total churn and voluntary churn constitutes the rest. However, in the case of two CDMA operators, Reliance and Tata Teleservices, the involuntary figure was reported to be as high as 80 per cent. Reliance, for example recently had to disconnect on 0.93 million post-paid users due to huge bad debts, owing to, bill defaulters in April 2005 (TimesofIndia, 2005).

Once churn is triggered (voluntary or involuntary), then the churn retention team tries to follow preventive measures. In case of involuntary churn, the average success rate to turnaround defection, achieved by the respondent service providers was 54 per cent and for voluntary churn, this rate was 40 per cent (Table 4-1). This implies that there is a big scope for improvement in the functioning of customer retention teams. The low success rate may be also attributed to the reactive approach of the service providers, to churn. It may also mean that once the customer has already switched over/decided to switch, it is difficult to win him back.

4.3.2 Reasons for Churn

The respondent service providers identified different reasons for churn, based on their experience with the both voluntary and involuntary switchers. In general, the service providers associate these reasons with increased level of competition and lack of quality delivered to the subscribers (Fig. 4-2).

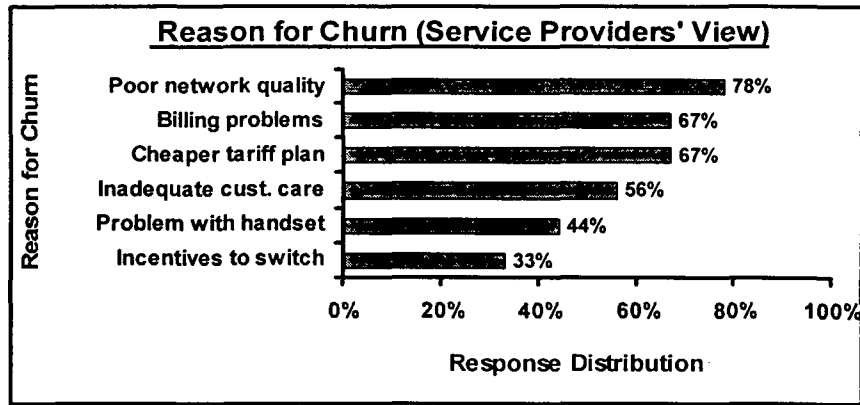


Fig. 4-2 Reasons for Churn, (Respondent Service Provider's View)

The frequency distribution of the common causes for defection, as perceived by the respondent service providers, indicates four prominent reasons (Fig. 4-2). Three of these factors, namely, 'Poor network quality', 'Billing problems' and 'Inadequate customer care' show the lack of the service quality delivery on part of the service providers. Choice of these reasons, point to the fact that, the Indian cellular user does not compromise with quality of the core service being provided. Also, the cellular users are looking for lesser problems in billing and expect better customer care and support. The fourth reason of the 'Availability of cheaper tariff plans' indicates that the Indian market is very price-sensitive and the subscribers are always on the look out for lower price and better tariff plans.

The reason of 'Problem with handset' is very specific to CDMA subscribers, wherein they were dissatisfied with the performance of their handsets and faced frequent problems and breakdowns. Finally, the reason of 'Incentives to switch' points to the fact that, in pockets where markets are shrinking, service providers are also aggressively poaching on each others' customers, by offering them discounts and other incentives.

During the survey, the service providers mentioned that, today, customers have high level of awareness and knowledge about cellular service and its usage. They expect the quality and satisfaction of the highest order. Since customers have wide variety of choices available, they do not shy of quitting their current service providers and join new ones.

4.3.3 Handling of Voluntary and Involuntary Churn

- **Voluntary Churn** – Service providers consider voluntary churn controllable, since they have the opportunity to interact with the potential switcher and have a chance to retain them. Different operators, have designed, different mechanisms, for handling voluntary churn. Most of the operators have established a well-defined procedure, roles and responsibilities. The following paragraphs discuss the general process-flow, followed in the industry, for managing voluntary churn, (Fig. 4-3).

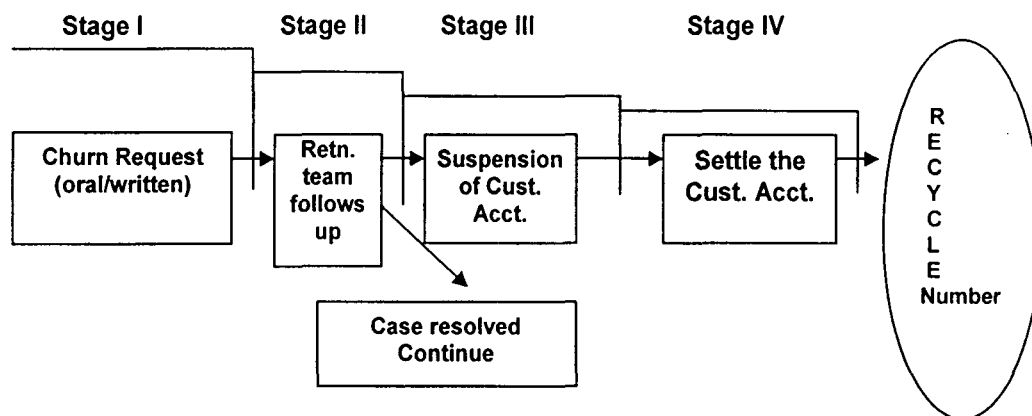


Fig. 4-3 Voluntary Churn: Process Flow

Stage I: Voluntary churn request is received, either as oral or written. All such requests are logged and initial information is collected from the customer and other internal departments, by the service support team. Cases of 'change of location' or 'loss of phone/SIM card' are not treated as churn and are handled separately.

Stage II: The service support team at the call centre is the first one to contact the potential switcher. Initial investigation is conducted to collect appropriate information from the customer for his switchover request. On the basis of this information, the support team tries to persuade him to stay. In case the customer is dissatisfied or has any specific complaint, the support team initially tries to resolve the issue. This is generally known as the '*first-level retention effort*'. If the customer agrees, they continue in the normal process flow.

If the customer is still not amenable, then, the case is transferred to the dedicated customer retention team. This is the '*second-level retention effort*'. The retention team is empowered to offer freebies and sweeteners to dissuade the customer from switching. These include discounts, free upgrade to higher tariff plan/credit limit, and/or free SMS/MMS. If he has specific complaints or there has been a serious service failure. They also try to compensate him for the inconvenience caused due to failure of service on the part of the service provider. The customer retention team usually work in a hierarchy with different roles and responsibilities. Higher position in the hierarchy also means higher degree of empowerments, to handle complaints and resolving customer concerns.

Stage III: In spite of all the above efforts, if the customer still wishes to discontinue his relationship with the service provider, an exit interview is conducted. The customer is marked as suspended. The feedback from all such customers is centrally documented, and later used for improving the required service delivery processes.

Stage IV: At this stage, all the exit formalities, final bill and security deposit settlement takes place. Finally, the number is recycled after a threshold period and reused in the system for another subscriber.

- **Involuntary Churn** – Involuntary churn takes place when a customer suddenly stops usage of service or payment of bills. It directly impacts the revenue cycle, so operators are sensitive towards it.

Different service providers have adopted different mechanisms to handle involuntary churn, depending upon their credit policy, and billing and revenue cycles. The general process flow adopted by the industry is presented below: –

Stage I: In case of involuntary churn, the indication of such churn activity, is gathered from multiple sources, these include, payment collection points, Accounts receivable department, reports collected directly from the network or generated through from the customer database (Fig. 4-4).

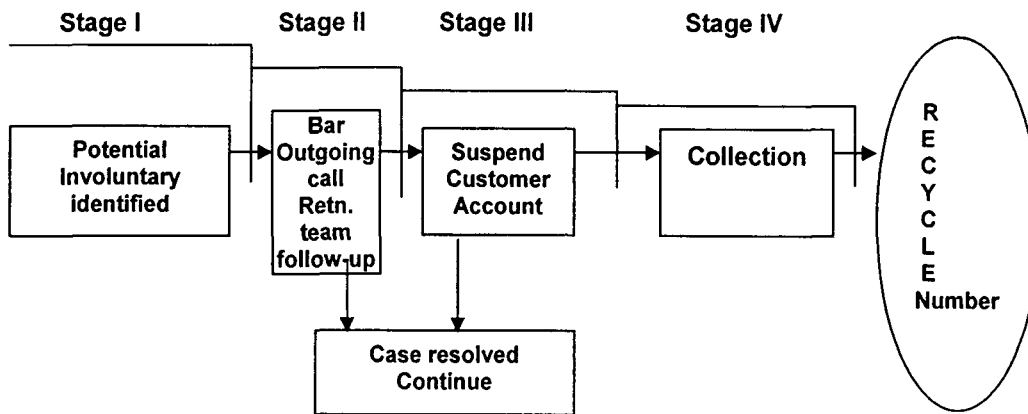


Fig. 4-4 Involuntary Churn: Process Flow

In case of involuntary churn, the objective of the service provider is to detect it as early as possible, to minimize possible abuse, fraud and debts. In case of payment defaulters, follow-up action is started immediately by making calls and sending SMS about the payment due. The retention team calls up the defaulters, to find out if there are any clarifications required or billing disputes to be settled. Billing disputes are escalated to higher management in an effort to resolve them as soon as possible. Similarly, the cases of abrupt non-usage of service are also investigated, to identify the reason for the same.

Stage II: To minimize revenue loss, from involuntary churn, the outgoing calls for all such subscribers is immediately barred. Consequently, at this stage, the subscriber will not be able to make calls, but can receive them. At this time the retention team makes special efforts including individual follow-up and personal visits. The collection team now aggressively tries to collect the amount due. The retention team also tries to lure back the customer by offering some instalment plan or waivers in order to bring him back.

Stage III: In case the customer settles the bills, and agrees to resume, all the services are restarted, back to normal. However, if no solution is reached with the customer, all his services are cancelled in the network and in the customer database.

Stage IV: Finally, the account is handed over to the collection team for recovery or write-off. At the last stage, after getting a clearance from the collection team, the number is recycled and goes back to the number pool for reuse.

During the survey of the respondent service providers it was found that the PSU service providers, both in case of voluntary and involuntary process follow a routine procedure of disconnection and no follow-up attempts or aggressive retention efforts are made for retaining customers. The PSU operators, being a state run unit, do not offer incentives to lure their defecting switchers. They have a defined process of settlement of last bill and termination of subscription.

4.4 Customer Retention Initiatives

In the Indian cellular service industry, the general perception about customer retention is fast changing. With the increasing churn rate, the service providers are paying greater attention towards it.

Customer retention today is recognized as a strategic issue and most of the operators have appointed a senior functional head that is directly responsible for it. A dedicated customer retention team supports him. This team usually constitutes the most proficient service support staff and is highly empowered to effectively implement retention programs.

Cellular service providers are adopting different strategies to win the loyalty of their customers. The objective of these strategies is, firstly to manage customer churn and secondly, to improve service quality. The goal is to keep their customer satisfied, so that their intention to switch is minimized.

Different providers lay emphasis on different types of strategic initiatives, depending on the reasons of churn encountered and their overall corporate strategy. They constantly revise and refine them depending on the market situation and the behaviour of their customers. Some of the service providers

This section presents a composite picture of the customer retention initiatives taken by respondent service providers. The efforts of the service providers have been classified into following four broad categories, viz., *Churn prediction*, *Business process improvement*, *Infrastructure improvement*, and *Building switching barriers*. The following paragraphs discuss each of the categories in detail, along with the degree of implementation. The degree of implementation of these measures facilitated the understanding of the industry level trends.

4.4.1 Churn Prediction Measures

The churn prediction measures constitute the practices adopted by the respondent service provider, to identify the potential switchers, fraudulent and vagabond customers early so that prevention activities can be triggered.

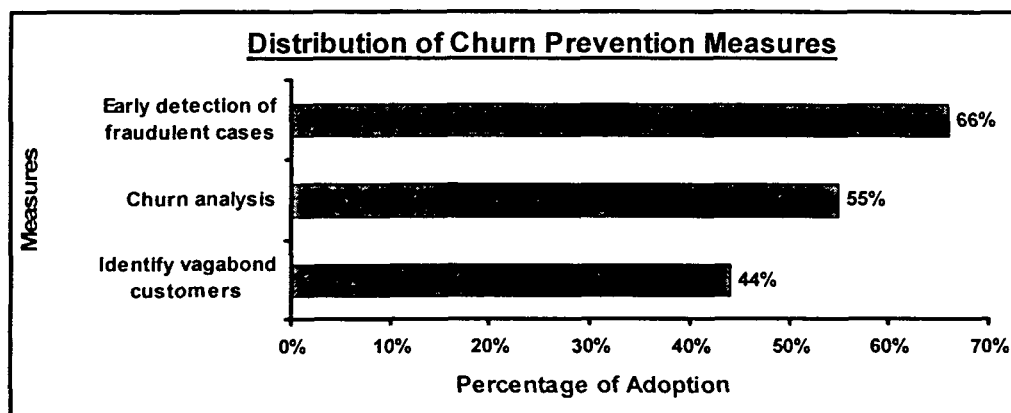


Fig. 4-5 Distribution of Churn Prediction Measures

The distribution of the churn prediction measures (Fig. 4-5) indicates that measures such as 'Churn analysis' and 'Identification of vagabond customer' are not very well practiced, while the practice of 'Early detection of fraudulent cases', is the most widely adopted measure. The likely reason for this is, because of the fact that the defaulting customer is debtor and directly impact the revenue cycle. The post-paid subscriber pays the cellular service charges usually, on monthly basis. Therefore, any delay in detecting potential defaulter, will accumulate more financial losses. Such cases need to be identified early and barred from further usage of the service and start the recovery process early.

In the past, because of bill defaulters, service providers like Reliance, had to incur huge losses and as a final step they had to disconnect on 0.93 million post-paid users and write-off bad debts (TimesofIndia, 2005).

Table 4-2 summarizes three churn prediction measures. This is followed by a detail description of each one of them.

Table 4-2 Summary of the Churn Prediction Measures

Churn Prediction Measures	Reason	Methods Adopted
<ul style="list-style-type: none"> Churn Analysis 	<ul style="list-style-type: none"> To detect churn early 	<ul style="list-style-type: none"> Use churn tools, which use various parameter to forecast churn
<ul style="list-style-type: none"> Early detection of fraudulent cases 	<ul style="list-style-type: none"> Early detection, will prevent revenue loss 	<ul style="list-style-type: none"> Customer data analytical techniques to verify customer information, credit history and address verification Proper verification of customer credentials Monitor sudden high usage and misuse of services
<ul style="list-style-type: none"> Identify vagabond customers 	<ul style="list-style-type: none"> To focus retention efforts on profitable customer 	<ul style="list-style-type: none"> Analyse payment history, loyalty history, billing info, paying potential and service usage.

- Churn Analysis** – Most of the providers are using churn prediction applications, which are run on the customer database to forecast potential defectors and their profiles. Various parameters of the customer profile are used for this activity including, payment history, age of the customer, income group, age in the network, and tariff plan to predict potential switchers. Along with this data, during this exercise competitor's information is also used as input, for churn analysis. This especially done when the competitors launch new schemes or offer drastically reduced tariffs.

Currently the prediction results of the churn analytical tools employed by most of the service providers are not as per their expectation, especially in case of involuntary churn. The current tools also do not have exhaustive data modelling and extensive data mining capabilities. As a result, their prediction accuracy is quite low. The service providers are on the look out of implementing specialized packages, tailored to their needs.

- **Early detection of fraudulent cases** – One of the possible reasons for involuntary churn is due to intentional defaulters and fraudulent cases. In order to avoid revenue loss due to such cases, the service providers have employed customer data analytic techniques to identify such cases. The service providers have built in-house applications that scan and verify the customer information for its completeness and accuracy. Data of the new customers is verified against the black-listed customers to ensure that fraudulent and deliberate defaulters are not entering to the system again.

To arrest the problem at the source itself, the proper address verification and credentials verification checks have been put in place at the customer acquisition stage. Dealers and the front-line sales staff have been instructed to ensure that new activation are done only after the completion of proper documentation and verification. In the past, dealers overlooked these checks in order to earn higher sales commissions, leading to easy passage of fraudulent cases. In order to control such cases, most of the respondent service providers have implemented another new system. Commissions to dealers are now deducted, in case subscriber brought in by them defects before the end of the first year. Also the commission (per subscriber enrolled) is paid in instalments, as the subscriber progresses through the loyalty ladder.

In order to detect frauds and avoid non-payment of heavy bills, service providers monitor sudden high usage and misuse of services, by constantly scanning information from the network and customer usage information. Unusual activities are investigated and services are barred from usage immediately, in case of deceptive intent.

- **Identifying vagabond customers** – Some of the respondent service providers have built-in mechanisms to identify vagabond customer whose loyalty is low. These customers are repetitive defaulters and high credit risk individuals, and keep coming and going. The identification of such customers is done on the basis of their loyalty history, payment history, and usage pattern. Based on these parameters, identification, tracking and

tagging is done by the database applications developed for this specific purpose.

Service providers recognize that vagabond customer place constraint on their resources and these efforts can be best utilised for serving more profitable customers. For such non-profitable customers, they have adopted a strategy of elimination at the first opportunity, and are also not making any attempts to retain them. However, identification of such subscribers still remains a difficult task, due to low predictability of software tools.

4.4.2 Business Process Improvement Measures

In order to achieve higher customer satisfaction, the service providers are constantly employing new measures to improve their business processes. The areas of business process improvement are identified by the respondent service providers based on the information gathered from their various sources. These include customer satisfaction surveys, exit interview of the switchers, complaints, and competitor's information.

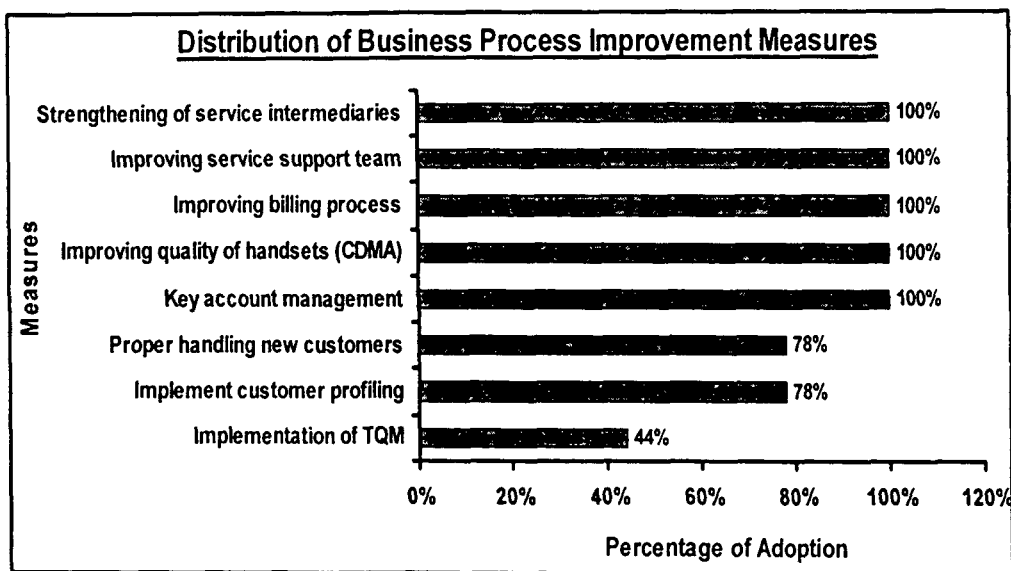


Fig. 4-6 Distribution of Business Improvement Measures

Figure 4-6, illustrates that the business improvement measures adopted by the respondent service providers cover different aspects of service delivery.

The frequency distribution of the measures implemented in this category, based on the response of the service providers (Fig. 4-6), indicates that they have mainly been emphasising on strengthening the service intermediaries (dealers/retailers), improving service support systems, improving billing process, management of key accounts and in case of CDMA, improving the quality of handsets, as well. The implementation of customer profiling and proper handling of new customer is also widely practiced. Few operators have taken special steps like implementation of TQM (Total Quality Management) to further improve the productivity and efficiency of their processes.

Table 4-3 summarizes the business process improvement measures. This is followed by a detailed discussion on each of these measures.

Table 4-3 Summary of Business Process Improvement Measures

Business Process Improvement Measures	Reasons	Methods Adopted
<ul style="list-style-type: none"> Strengthening service intermediaries 	<ul style="list-style-type: none"> Dealers/Retailers are a critical customer interface 	<ul style="list-style-type: none"> Training/ Workshops Implement quality systems Zero Channel approach
<ul style="list-style-type: none"> Improving service support 	<ul style="list-style-type: none"> Critical component of customer interface and customer satisfaction 	<ul style="list-style-type: none"> Hiring the right people Training, Motivating Providing IT support systems Outsourcing support activities
<ul style="list-style-type: none"> Improving billing process 	<ul style="list-style-type: none"> One of the key reasons for churn 	<ul style="list-style-type: none"> Improving the billing system Handling of each case separately and providing details as appropriate
<ul style="list-style-type: none"> Improving quality of handsets (CDMA) 	<ul style="list-style-type: none"> Cause of dissatisfaction especially among CDMA users 	<ul style="list-style-type: none"> Immediate replacement Demand better quality of handsets from manufacturers
<ul style="list-style-type: none"> Implementation of Customer profiling 	<ul style="list-style-type: none"> Better service for high value customers 	<ul style="list-style-type: none"> Segregation of customer based on various parameters.
<ul style="list-style-type: none"> Key account management 	<ul style="list-style-type: none"> Key accounts bring bulk business 	<ul style="list-style-type: none"> Appointment of account/relationship managers, and build long-term relationship Priority handling of key account
<ul style="list-style-type: none"> Proper handling of new subscribers 	<ul style="list-style-type: none"> New customers are the most vulnerable group to churn 	<ul style="list-style-type: none"> Welcome call and distribution of starter-kit Constant support and monitoring for first 6 months
<ul style="list-style-type: none"> Implementation of Total Quality Management 	<ul style="list-style-type: none"> Achieve higher service quality, efficiency and productivity 	<ul style="list-style-type: none"> Monitor, benchmark and improve process

- **Strengthening service intermediaries** – Service intermediaries are no longer considered as separate entities, but are being treated as an extension of the organization. These intermediaries include dealers and retailers who are appointed to sell services of the service providers and give after sales support. All the distribution channels are now considered as service partners and the onus of delivering service quality lies on them as well. Strengthening relationship with the service intermediaries is considered as the first step of the ladder to build relationship with customers.

Developing the right dealer network is the key to acquiring new customer and servicing the existing ones. As part of this relationship building, regular dealer/retailer training workshops are conducted, to educate them about various products and services. They are given detailed information about competitor's strengths and weaknesses. A dedicated team supports the dealers/retailers in their sales effort and customer handling.

Service intermediaries are now considered as critical points for interfacing and serving the customer. The respondent service providers seem to realize this fact and are putting all their sales, marketing and promotional effort to support them.

The focus of developing and supporting the dealer is no longer limited to sales. At the dealer training workshops, emphasis is being given on implementation of good after-sales support. Service intermediaries are given targets not only for increasing the subscriber base but also for retaining the existing customers. Their performance is judged on agreed parameters, which include lower rate of defection and higher loyalty of customers brought in by them.

Some of the regional service providers have implemented 'zero channel approach', wherein they have adopted a policy of opening their own showrooms, servicing outlets and retail shops to directly serve their customers. This approach helps them to take better control on the quality of service delivery to their customers.

- **Improving customer service support team** – Customer service support team represent the organization in the eyes of the customers. The customer expectation and perception on this dimension form a critical function of service quality delivery. The service providers primarily interact and provide support to their customers through the service support staff operating from the call centre. The call centre operations are generally divided into 'Inbound' and 'Outbound' support operation, to provide effective service support. The 'Inbound' support handles the customer's calls regarding their queries, complaints and service request. Alternatively, the 'Outbound' operation supports activities that are initiated by the service providers for service promotion, communication, customer follow-ups, and for gathering customer's feedback.

In order to build a customer-oriented and service-minded workforce, service providers follow a multi-pronged strategy starting right from the hiring stage of this workforce. Special attention is being paid to recruiting the right personnel, who have good communication skills and an aptitude for service support. Further, the service support team is trained on various aspects of service support. Besides being given a complete and detailed knowledge about services being offered, they are also imparted with comprehensive training on the customer support system. Extensive knowledge is provided on various front-end and back-office activities covering all the related process-flows within the organization. During training, interactive and communication skills are sharpened, and handling of different customer interface situations are especially emphasised. Once inducted into the job, senior staff constantly monitors the performance of the new service support staff.

IT-based customer support systems form the backbone of customer care service support. With the increasing volume of subscribers, service providers have either implemented new customer care and billing systems or enhanced the existing one. The service providers, with the help of their vendors and internal IT team, constantly improve support systems based on the feedback of the user and their new requirement.

Service providers have realized that to be truly responsive to customer needs, the service support team needs to be empowered to make quick decisions that can accommodate customer requests and take appropriate actions. Service providers have developed a hierarchical empowering system that is based on seniority. This empowerment, depending on the hierarchy, can offer freebies, discounts, and waivers in order to compensate for genuine complaints or resolving billing/payment disputes.

Exclusive motivation programmes are run for the service support team, and performing team members are provided with incentives, bonuses, recognition schemes, and other fringe benefits.

Service providers realize that customer service support is an important link to customer's overall perception and satisfaction. Most of the service operators have developed performance measurement tools in order to effectively benchmark the quality of service being delivered. These measurements cover different parameters including, waiting time for call to get connected to the call centre, customer handling by the service support staff, queries/complaint handling, and overall service response time.

With the ever-increasing volume of subscribers and expansion of operations, the service support systems are overloaded. This expansion requires huge resources and investments. To overcome this in a cost-effective manner, some of the service providers now prefer to outsource part of either the 'Inbound' or 'Outbound' support activities to other expert call centre companies. All such outsourcing projects are based on strict quality norms and service level agreements.

- **Improving billing process** – The respondent service providers in the past faced a lot of complaints from the post-paid subscribers regarding billing. These complaints were related to billing inaccuracies, over-payment, wrong charges, late delivery of bills, and lack of billing details on the bill. In order to handle these complaints, the service providers have taken many steps. These can be broad classified into four different areas. Firstly, they

have undertaken the upgrade of their current billing system to improve its functionality and accuracy. Secondly, a strict quality assurance process is undertaken to verify calculations in the randomly selected bills before their final printing. Thirdly, the customer care system has been implemented in such a way that it tracks all the customer calls/transactions. This helps the service providers to retrieve customer details quickly, whenever required. This facilitates the service providers in giving detailed bill information to their subscribers. Fourthly, the subscribers are communicated detailed information about tariff plan, charges and services through regular mail communication.

Besides the above-mentioned measures, billing disputes are handled quite seriously. Each case is handled individually. Detailed checking of each record in the disputed bill and the calculations are re-verified. Efforts are made to give details to the customer up to the last digit. In case of problems, appropriate adjustments are done immediately and the customer is given compensation/discounts for mistakes made. Feedback is provided to the billing department to enhance their billing software, bill quality assurance and verification process.

- **Improving the quality of handset (CDMA)** – When a subscriber opts for CDMA subscription, they receive a handset along with it. In the past, the CDMA subscribers often complained of handset failure and breakdown, leading to frequent replacements. CDMA operators realized that handsets being provided are of poor quality. Taking this as a major issue, the CDMA service providers have worked on a strategy to work closely with the suppliers and manufactures of CDMA handsets. They have now implemented strict quality norms as part of their purchase process and field trials are done before introducing new handsets in the market. These handsets need to be rugged and should pass through strict quality norms.

To regain customer confidence, the CDMA operator regularly run promotional campaigns, offering free of cost replacement of faulty handsets and upgrade to high-end handset at discounted prices.

- **Implement customer profiling** – Most private operators have segmented their subscriber base into broad categories of Individual, Corporate, and VIP. Each of these categories is treated separately, with different marketing and service support strategies. The service providers further segregate their subscriber base using 'Customer Profiling' mechanism. The idea behind this split is to be able to direct service excellence primarily at most valued, chosen profitable customers – although all customers are served at levels above a minimum threshold.

Different service providers are using different criteria for this classification. The most commonly used parameters include, Age in the network (loyalty), Monthly bill (revenue per month), Payment history (credit risk), tariff plan (type of services used), and some demographic parameters like age of the users, income, and occupation. Each of these classification parameters has associated weight points allocated to it. These points help service providers, to classify their customers into high, medium or low category based on the individual score of each subscriber over these parameters. Thus, for example, a loyal customer with high usage and good payment history will be placed in a higher category than a new customer.

Usually these ratings are generated, verified and reviewed on a monthly basis using the billing data and other related subscriber transactions. The ratings help the service providers to serve their customer better by devising specific service strategies for individual customer profile groups. One good example of such service strategy is when a higher-profile customer calls the call centre. When such a call is received, the system identifies it and automatically gives it a higher priority in call-waiting queue and directs it to the premium helpline.

- **Handling of key accounts** – The service providers' treat corporate, VIP, and high-usage customers as their key accounts, because these customer categories generate high revenue and have a potential to further increase it. Thus, the service providers give them special attention.

Dedicated teams led by a relationship manager/key account manager are made responsible for such high-value bulk business accounts. The relationship/key account managers act as a single point of contact and interface for all dealings, negotiations, up-selling, cross-selling, complaints, and new service requirements, with these key customers. Customized tariff plans and premium services are offered to these customers with volume discounts and special rates. Dedicated team handles the service requirements and complaints of the key accounts with the highest priority, and solutions are offered in real-time.

- **Proper handling of new subscribers** – Service operators have experienced that the new subscribers have a higher probability of switching over. Thus, it becomes important for them to pay particular attention to this group of customers till they mature in the system.

Most service providers start with a 'Welcome Call' to their new customers providing them detailed information about service usage, support, and helpline as soon as a new connection is activated. All new customers also receive a start-up kit detailing relevant information. The objective of this exercise is to ensure that the new subscribers are aware of the different services and their usage. The focus is to ensure that new subscribers should feel comfortable and confident about the cellular service being offered and its processes. For the first few bills the subscribers usually have doubts, questions and clarifications. In order to proactively handle their anxiety, immediately after the despatch of the bill, a call is given to new customers to explain the bill to them in detail, including the charges, services used and call details. They are also provided with additional information about due date, payment procedure, payment method, and locations where payment can be made. The service providers usually define a period of 3-6 months during which the new subscriber stabilizes and starts feeling comfortable. For this initial period, the new subscribers are regularly followed up with courtesy calls, and given updates. This type of interface builds trust and confidence with new customers and helps them to identify potential switchers.

- **Implementation of TQM** – Most of the service providers have already started to implement specific quality management programmes within their organizations, in order to monitor and benchmark the performance of systems and processes. Currently a greater emphasis is given on the areas where the customer interface is high, including the call centre, customer support staff, network systems, dealers and billing systems. A detailed process of documentation and benchmarking is followed in order to set appropriate standards with a view to improve them. The process control quality department observes and collects performance data on regular basis, which is reviewed against the benchmarked figures. The results are reported to the management with an objective to improve the processes and systems. Statistics on various parameters of service delivery are collected to monitor efficiency of business and technical processes. These parameters have been chosen on the basis of their importance to deliver high quality of service and the list of mandatory parameters defined in the 'Quality of Service Report' (TRAI, 2005d). The quality service report is required to be submitted to TRAI by all service operators on regular basis.

4.4.3 Infrastructure improvement measures

The cellular network and supporting IT infrastructure forms the heart of the cellular service delivery. The poor quality of these factors is one the major contributors to customer dissatisfaction and defection. The distribution of measures adopted by the respondent service providers under this category highlights three measures (Fig. 4-7).

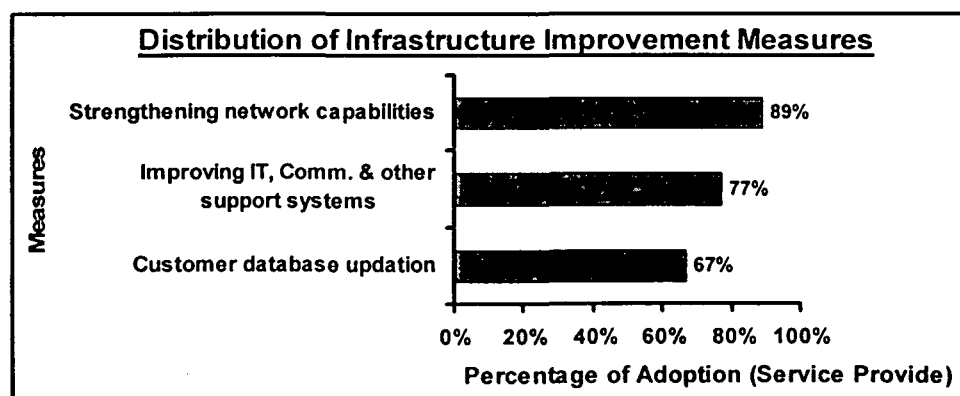


Fig. 4-7 Distribution of Infrastructure Improvement Measures

Two main measures implemented include 'Strengthening network capabilities' and 'Improving IT and other support systems'. In-addition to these, some of the service providers are also doing the activity of 'Customer database updation'. Table 4-4, gives a brief of the infrastructure improvement measures. After this a detailed discussion on each of these measures follows.

Table 4-4 Summary of Infrastructure Improvement Measures

Infrastructure Improvement Measures	Reason	Methods Adopted
<ul style="list-style-type: none"> Strengthening network capabilities 	<ul style="list-style-type: none"> Cause of major dissatisfaction 	<ul style="list-style-type: none"> Tracking network quality and signals Installation and Upgrade of equipment Special preparation for days of festivity and particular events
<ul style="list-style-type: none"> Improving IT, communication and other support systems 	<ul style="list-style-type: none"> Increasing volume of operations Improve customer service 	<ul style="list-style-type: none"> Implement new IT system and upgrade existing Improving communication infrastructure Implement/Upgrade existing customer care and Billing systems
<ul style="list-style-type: none"> Customer database updation 	<ul style="list-style-type: none"> Important components of the customer information in the customer database are incomplete/incorrect 	<ul style="list-style-type: none"> Re-verification of data and its updation

- Strengthening network capabilities** – The service providers constantly monitor and improve the network performance and upgrade the network capabilities as and when required. The network infrastructure is the backbone to provide cellular service, and is, thus, the key to customer satisfaction. Network quality has been identified as one of the main reasons due to which subscribers defect.

The network infrastructure is constantly under capacity strain because of the exponential subscriber growth. For most of the operators, a full phase of expansion is in progress along with an increase in capacity handling. New network infrastructure facilities have been established, and the existing ones are being expanded to improve the coverage area, quality of voice, roaming service, strength of the network signals, and the quality of Value-Added-Services. Few service providers have also out-sourced some the expansion and maintenance to vendors in order to achieve higher level of service performance.

Service providers have set up special signal monitoring teams to identify areas of weak cellular signals, feeble connectivity and poor quality of voice. These may include new residential areas, high-rise buildings, congested areas or new areas of property development. Based on the feedback from the field and complaints from subscribers, new tower installations and upgrades are undertaken. After commissioning of new installation or upgrade, the subscribers in the affected area are proactively informed through SMS and newsletters.

The service providers also make special preparations and contingency arrangements for holidays, festivities, and special events, wherein the network traffic, congestion, volume of calls and transactions is high. The network infrastructure team does proactive planning to anticipate such occurrences, to ensure that the subscriber experiences a seamless connectivity and high quality of service even during such events.

- **Improving IT, communication and other support systems** – The cellular service industry is highly automated and its operations are managed by dedicated IT and communication infrastructure. To achieve efficiency, scalability, productivity, and cost control the service providers are constantly making major investments in IT department, communication systems, customer care and billing systems, hardware, software and other supporting platforms to strengthen this backbone. The current IT expansion drive will help the service providers to handle the ever-increasing subscriber volumes, more efficiently.
- **Customer database updation** – Accuracy of the customer information is critical to providing good customer support and also to run effective customer retention campaigns. It is tool which can be easily used to create develop better relationships and close proximity with their customers.

Most service providers are currently in the process of cleansing and updating their subscriber database. This is required to be done because in many cases the information about the customer is inadequate, incomplete

or inaccurate. This incomplete and inappropriate customer data is due to the following reasons.

- A. *Change of customer care and billing systems:* The customer information is stored in a database, which is part of the customer care and billing systems. Over a period of time, service providers have upgraded these applications. During this data conversion process between the legacy and the new system, some of the relevant customer information was either lost or not mapped, resulting in incomplete and inaccurate data.
- B. *Dealer/Retailer error:* In many cases, in a rush to get higher number of subscriptions, the dealers/retailers ignored the verification process. Proper validation and address checks were not done, resulting in incorrect and inaccurate information.
- C. *Frauds:* In some cases, subscribers do not provide accurate information, with an intention to use the service for fraudulent activities. Since the validation process is not full proof, incorrect and false information is entered into customer database.

The existence of poor quality of data means that analysis and key performance indicators used to guide the retention strategy and the decision making process are potentially flawed. To arrest this situation the service providers have taken measures to validate the existing information and complete the missing information. Undertaking a massive data cleansing activity for the entire customer database in one stage is not possible. Therefore, many of the operators have formed a multiphase approach. Priority has been given to corporate/key/high value customers. In the subsequent phases, all the individual subscriber segments will be updated with correct and missing information.

4.4.4 Building Switching Barriers

Creating switching barriers is another effective way of controlling churn and retaining customers. Many service providers are using this strategy effectively

to retain their customers. The frequency distribution of the different switching barriers being adopted indicates that the respondent service providers are extensively using 'Competitive pricing', and 'Brand building' mechanisms (Fig. 4-8).

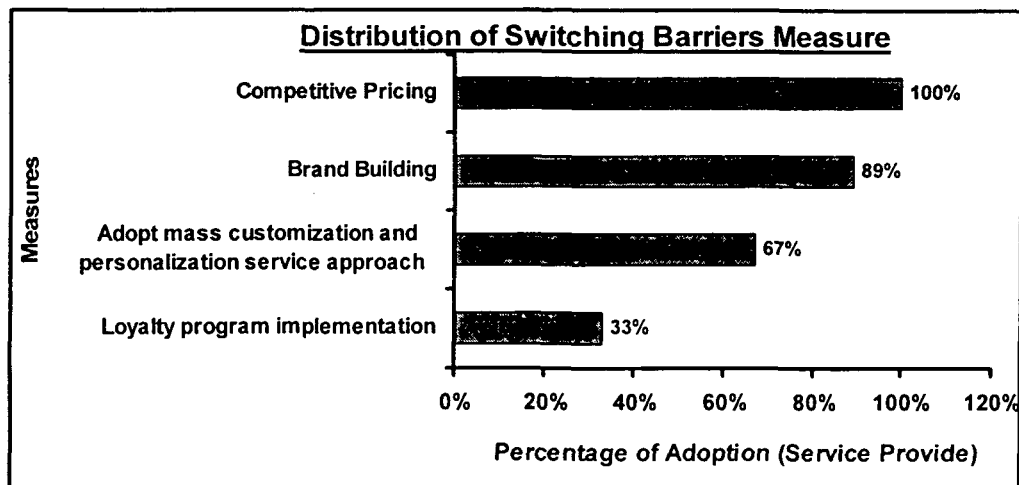


Fig. 4-8 Distribution of Switching Barrier Measures

A majority of the respondent service providers are also 'Adopting mass customisation and personalization service approach'. Only a few respondent service providers have implemented 'Loyalty program' measure. Table 4-5, encapsulates the switching barriers measures. A detailed discussion on each of these measures follows next.

Table 4-5 Summary of Switching Barriers Measures

Switching Barrier Measures	Reasons	Methods Adopted
<ul style="list-style-type: none"> Competitive pricing 	<ul style="list-style-type: none"> Price sensitive market 	<ul style="list-style-type: none"> Matching competitors pricing Low price plan targeting lower segments of market
<ul style="list-style-type: none"> Brand building 	<ul style="list-style-type: none"> Use brand image to foster loyalty Reinforce the positive attitude towards organization 	<ul style="list-style-type: none"> Appropriate use of promotional mix Informative/Persuasive/Reminding Ad campaign Tying up with celebrities
<ul style="list-style-type: none"> Adopt mass customisation and personalization service approach 	<ul style="list-style-type: none"> Servicing variety of customer demands 	<ul style="list-style-type: none"> Availability of variety of tariff plans and Value-Added-Services Customized Tariff plans and offers of specific service usage
<ul style="list-style-type: none"> Implement loyalty programs 	<ul style="list-style-type: none"> Reward loyalty 	<ul style="list-style-type: none"> Launching of point based loyalty schemes

- **Competitive Pricing** – The Indian cellular market is still very volatile and price sensitive. Each player in the market is thus, trying to maintain/increase its market share, by adopting an aggressive competitive pricing strategy as a switching barrier. The service providers are constantly revising their price plans and tariffs to be in synchronization with the changing costs and overheads. These reductions are resulting either from the new de-regulations or their own internal redesign of cost/profits. In both the cases, they are passing on these benefits to their customers. Until the prices stabilize, each of the service providers has adopted an aggressive pricing approach, in order to maintain their customer loyalty.

Keeping in view, the low per capita income in India, service providers are constantly redesigning their tariff plans to penetrate the market, by making it affordable for masses. One of the key strategies adopted by them in this regard is to offer their service, in two components – core service and Value-Added-Services. The logic behind this approach is that for a large majority of the Indian service user, it is important, just to be able to make and receive calls at cheaper rates. This group of customers are not much interested in the advanced products and services. By separating the core service and additional services, the service providers have been able to offer core service at lower prices, but at the same time are deriving their profits through the Value-Added-Services.

- **Brand building** – As competition is increasing in the Indian cellular landscape, majority of the service providers are trying to foster loyalty of their customer, by engaging themselves in specific brand building and promotion exercises. Using brand building as a strategic tool, informative, persuasive and reminder advertisement campaigns are being run to convey the core strengths and competitive advantages.

In the brand building campaigns, the PSU operators convey their brand image as that of being transparent, reliable, and value for money provider. The private operators on the other hand promote their higher service

quality delivery and support. They have also tied up with celebrities including film stars and cricketers to endorse their services. This helps the private service operators to enforce their brand value and corporate image. It also helps them to show their customers, how they are different from their competitors.

- **Adopt strategy of mass customisation and personalized service –** Most of the service providers are adopting mass customisation and personalized service strategy for lasting customer satisfaction and loyalty. This approach aims to provide products and services that serve individual customers' personal needs with near mass production efficiency.

Today cellular market is fast changing and customers are becoming more demanding than ever, at the same time there is great diversity in the usage of service. The service providers have adopted mass customisation strategy to meet the demands of increasingly heterogeneous customer requirements. Today they also offer a wide variety of service packages and Value-Added-Services to match their individual customer needs. Services are also being personalized, to high value, heavy usage, and corporate customers, by offering them individualized service content and dedicated service support. These users are provided with models of flexible, personalized pricing and offers.

- **Implement Loyalty programs –** Running loyalty programs is not a very popular strategy among Indian cellular service providers. Only a few of them have implemented such schemes, others are not sure if such programmes help in achieving higher customer loyalty.

As in other service industries like banking or airlines, as part of the loyalty programme, a subscriber earns reward points, based on their monthly usage and loyalty. The points are calculated at the end of each billing month and published as part of the billing information on the bills. The subscriber can redeem these points in the form of discount coupons,

shopping vouchers, gifts, tickets for special events/films and special tariff plan offers. In case of heavy usage users, tariff plan upgrade and other service freebies such as SMS, discount rate for calls etc. is also offered.

4.5 Impediments to Effective Retention Practices

During discussions with the respondent service providers, a few key inhibitors to effective customer retention practices came into light. These barriers are presented below. Improvements in these areas are important in order to maximize the retention effort.

- **Reactive approach to customer retention practises** – The orientation of the management in the past was more driven towards customer acquisition as the size of the market was very big and competition was scarce. This perception resulted in building a 'reactive system' to churn, rather than adopting a 'proactive approach' to predict and prevent it. In general, there has been a lack of strategic focus on adopting effective customer retention practices.
- **Varying degree of service culture within the organization** –The degree of service culture, varies within the various organizational units of the service providers. Organizational units like customer service support, sales and call centre have higher orientation, towards customer service. However, the IT department, billing and other support system are less oriented towards it. This non-synchronization, affects the overall output of the service delivery to the customer.
- **Lack of use of good churn prediction tools** – Most of the service operators mentioned that they did not have very high-quality churn prediction tools or software packages. These applications do not employ sophisticated churn modelling or data mining techniques. Lack of such tools is detrimental to accurately predict churn and manage churn proactively.

- **Lack of flexibility in the customer care and billing applications** – The current customer care and billing applications used by many of the operators gives limited functionality and flexibility to implement complex tariff plans containing tier-based discounts and cross-product offers. This prevents the service providers from putting new switching barriers or to implement desired triggers for more timely information in order to prevent churn. These applications also do not help the front-line staff and back-office to act promptly to customer requests and deliver services to them on time. The customer care and billing applications system need to have enhanced functionality and flexibility, so as to be able to come out with new offers, packages which can create value-addition and differential in the service being offered.
- **Lack of churn management initiatives by PSU operators** – PSU operators need to change their approach towards customer retention. Unlike private operators, the PSU operators do not carry specific churn management activities such as customer profiling, churn analysis, and proactive churn management. In case of both, voluntary and involuntary churn, no follow-up activity is done to either retain the customers or to conduct a proper profiling of the switcher. The PSU subscribers often experience lack of professionalism, bureaucracy and poor service culture.

The customer retention initiatives of the PSU operators are further constrained by regulatory guidelines and government rules. PSU operators do not have the organizational flexibility, willingness, and/or authority to offer freebies and incentives to their customers in order to retain them.

4.6 Summary

Over the last decade, the landscape of cellular service industry in India has been changing rapidly. Factors such as vast geographic expanse and large middle-class population, limited reach of fixed-line telephony, availability of affordable handsets, lower cellular call tariffs, introduction of CDMA as cheaper alternative, and initiatives by government and TRAI, have acted as key growth drivers of cellular growth in India. Coupled with these drivers, other important factors such as availability of nationwide roaming, multilingual Value-Added-Services and new services and applications have added to the explosive demand for cellular services in India. While there has been rise in new subscriptions, the customer churn rate also has increased in the industry. Increasing competition, shrinking urban market areas, decreasing ARPU, competitive pricing of CDMA operators, acquisition strategy of larger players, and the rising expectation of the users have, thus, contributed to the growing importance of customer retention within the industry.

According to the respondent service providers the average monthly churn rate ranges between 3 to 5 per cent for post-paid subscribers. A break-up of this churn figures shows that involuntary churn (60-70%) is higher than voluntary churn (30-40%). The respondent service providers have identified various reasons for churn. Most of them, associated churn due to poor network quality, billing problems, and availability of cheaper tariff plans with the competitors. Many of the service providers also related it to inadequate customer care, and problems with the handsets. A few of them also associate the churn to the aggressive marketing of the competitors, who provide incentives to switch.

The service providers have devised various processes to handle voluntary and involuntary churn. Each of these cases is handled through these defined processes, with an objective to retain the defectors. Four broad category of customer retention measures namely – *Churn prediction*, *Business process improvement*, *Infrastructure improvement* and *Building switching barriers*, are currently being practised by the respondent service providers.

Three main measures constitute the category of churn prediction measures. These include churn analysis, early detection of fraudulent cases and identification of vagabond customers. Among them, detection of fraudulent cases is the most well adopted measure. The major focus of the service providers with regards to business improvement process has been on strengthening the service intermediaries (dealers/retailers), better management of key accounts and improving service support systems, billing processes, and quality of handsets. Along with these efforts, customer profiling and proper handling of new customers is also widely practiced. However, only a very few service providers engage in quality improvement processes such as TQM (Total Quality Management). The distribution of infrastructure improvement measures adopted by the respondent service providers highlighted three measures. Two main measures include strengthening of network capabilities and improving IT and other support systems. In addition, to them some of the service providers have also initiated customer database updation activity. Creating switching barriers is another effective way of controlling churn and retaining customers, which has been adopted by the respondent service providers. Measures like competitive pricing, and brand building mechanisms are being extensively used along with adoption of mass customisation and personalized service approach. Only a few respondent service providers indicated that they have implemented loyalty programmes.

The chapter concludes with the identification of barriers to effective customer retention strategies. Reactive approach to retention, varying degree of service culture within the organization, non-usage of good churn prediction tools and data mining techniques, and lack of flexibility in the customer care and billing software packages are inhibitors to their efforts of adopting good retention practices.

CHAPTER 5 – ANALYSIS OF CUSTOMER SWITCHING BEHAVIOUR

5.1 Introduction

5.2 Cellular Usage Age and Network Age Analysis

5.3 Switching Behaviour in the Past

5.4 Intention to Switch

5.5 Customer Switching Behaviour Analysis

5.6 Suggestions for Creating Closer Proximity to the Customer

5.7 Summary

Chapter 5 – Analysis of Customer Switching Behaviour

5.1 Introduction

This chapter examines the churn and loyalty behaviour of Indian cellular service users based on the analysis of the data collected through customer survey. The chapter is divided into four sections. The first section investigates the subscriber growth pattern based on the cellular usage age and network age of the respondents. The next two sections explore the switching behaviour of the respondent customers based on two dimensions. First, is their loyalty in the past, and second, is their current switching intention. For both the cases, the reasons for their choice of loyalty/defection have also been explored.

Further, this chapter assess the churn and loyalty behaviour of the respondents, using 'Did change vs. Will change' model and Jones & Sassar model of loyalty (Jones & Sassar, 1995). In the concluding section suggestions have been listed, as to how, the service providers can enhance their proximity with the customers.

5.2 Cellular Usage Age and Network Age Analysis

In the customer survey, the respondents were asked to indicate the month and year in which they originally started using the cellular service, and when they joined their current service provider. Using these two dates, the following two variables were computed, taking December 2004 as the cut-off period²²,

- a) *Cellular Usage Age* – represents the total time period of the service usage. It was calculated as follows: –

$$\text{Cellular Usage Age (In months)} = (\text{December 2004}) - (\text{Month and year of starting of the usage of cellular service})$$

²² The primary data collection activity for the customer was completed in December 2004. Therefore, this was used as the cut-off period for analysis.

b) *Network Age* – represents the total time period that the subscriber has spent with the current service provider. This variable actually represents both, the new subscriptions (first time cellular users) and subscribers who have switched over to the current service provider. For each respondent, it was computed as follows: –

$$\text{Network Age (In months)} = (\text{December 2004}) - (\text{Month and year of joining the current service provider})$$

Using the above variables, separate time period frequency distribution table were constructed to examine the patterns of growth and churn in the respondents' data. The results of the cellular usage age and the network age are presented below.

- **Cellular Usage Age:** The frequency distribution of this age shows, that more than 83 per cent of the respondents started using the cellular service five years ago, with 65.5 per cent of them, joining in the last three years (Table 5-1).

Table 5-1 Frequency Distribution of Cellular Usage Age

Cellular Usage Age (Months)	Frequency (Per cent)	Cumulative Per cent
Last 6	46 (8.4%)	8.4
Last 7–12	76 (13.9%)	22.4
13–24	156 (28.6%)	51.0
25–36	79 (14.5%)	65.5
37–48	52 (9.5%)	75.0
49–60	45 (8.3%)	83.3
61–72	49 (9.0%)	92.3
73–84	19 (3.5%)	95.8
85–96	5 (0.9%)	96.7
Above 97	18 (3.3%)	100.0

The frequency distribution of the respondent customers' cellular usage age also reflects that, there has been a steady upward growth in the new cellular subscriptions over the last decade. This pattern of growth in the respondents' data is in accordance with the growth pattern of the Indian cellular service industry. According to the study paper published by TRAI (TRAI, 2005a), the number of cellular subscribers has grown from a mere 3.58 million in March 2001, to 52.2 million in March 2005.

The study paper divides the cellular subscriber growth phases in two parts, with each phase having its own contributing triggers. The first phase of growth started in 2001–02, when third and fourth cellular operator's licences were allotted (Fig. 5-1). During the same period, CDMA service (Limited mobility) was introduced as a cheaper alternative to GSM service. The second phase of growth was triggered in 2003–04. During this phase, TRAI implemented CPP (Calling Party Pays) model, whereby the incoming calls were made free. They also lowered ADC (Additional Deficit Charge) from 30 per cent to 10 per cent, leading to lower and more regulated tariff plans.

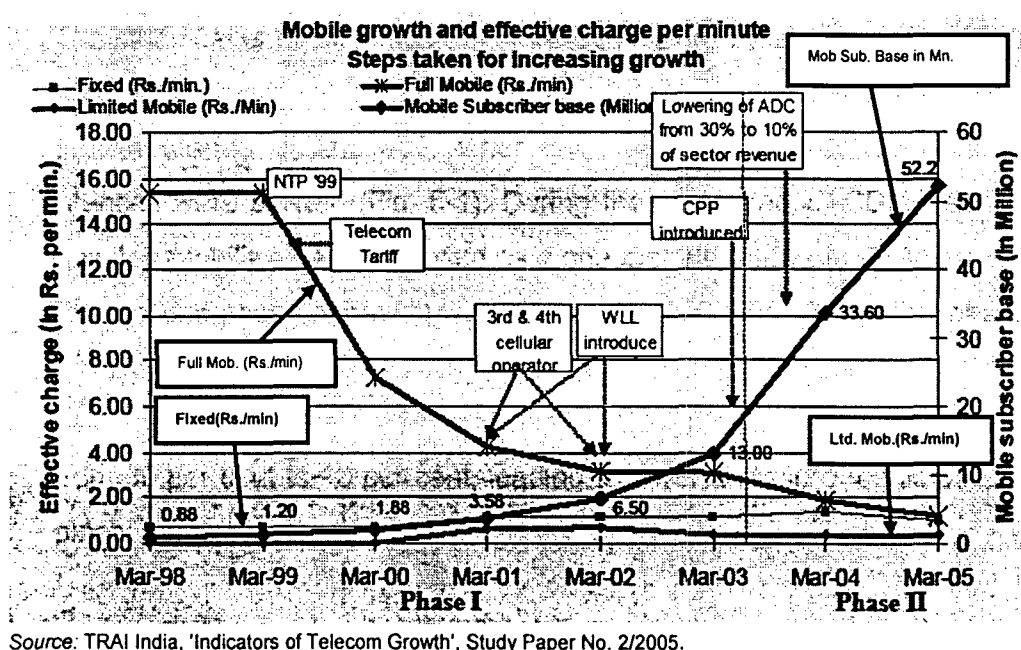


Fig. 5-1 Phases of Cellular Growth in India

Figure 5-1 also indicates, that since March 1998, the tariff gap between the cellular and fixed-line service has significantly reduced. The GSM tariff in March 1998 was as high as Rs. 15 per minute. It plummeted to almost the same price as that of fixed-line call tariff by March 2005. This narrowing gap of tariffs made GSM service affordable, and motivated more and more users to take up cellular subscriptions. Similarly, it is also apparent from the figure that the CDMA charges are lower than both, the fixed-line service and GSM service, thus, making it a popular choice among the Indian masses.

- **Network age:** The growth pattern of the respondents with regards to their current service provider was analysed by calculating the frequency distribution of this period at two levels, overall and category based (Table 5-2). These categories include, circle (metro/non-metro), ownership (private/PSU), and technology (CDMA/GSM).

Table 5-2 Frequency Distribution of Network Age

Network Age (Months)	Overall	Circle		Ownership		Technology	
		Metro	Non-Metro	Private	PSU	CDMA	GSM
Last 6	89 (16.3%)	53 (18.6%)	36 (13.8%)	61 (13.8%)	28 (26.9%)	27 (25.5%)	62 (14.1%)
Last 7–12	99 (18.2%)	50 (17.5%)	48 (18.5%)	76 (17.2%)	22 (21.2%)	30 (28.3%)	68 (15.5%)
13–24	154 (28.3%)	66 (23.2%)	88 (33.8%)	101 (22.9%)	53 (51.0%)	49 (46.2%)	105 (23.9%)
25–36	78 (14.3%)	45 (15.8%)	33 (12.7%)	78 (17.7%)	(0%)	(0%)	78 (17.8%)
37–48	34 (6.2%)	20 (7.0%)	15 (5.8%)	34 (7.7%)	1 (1.0%)	(0%)	35 (8.0%)
49–60	32 (5.9%)	20 (7.0%)	12 (4.6%)	32 (7.3%)	(0%)	(0%)	32 (7.3%)
61–72	29 (5.3%)	13 (4.6%)	16 (6.2%)	29 (6.6%)	(0%)	(0%)	29 (6.6%)
73–84	16 (2.9%)	5 (1.8%)	11 (4.2%)	16 (3.6%)	(0%)	(0%)	16 (3.6%)
85–96	3 (0.6%)	2 (.7%)	1 (.4%)	3 (.7%)	(0%)	(0%)	3 (.7%)
Above 96	11 (2%)	11 (3.9%)	(0%)	11 (2.5%)	(0%)	(0%)	11 (2.5%)
Total	545 (100%)	285 (100%)	260 (100%)	441 (100%)	104 (100%)	106 (100%)	439 (100%)

A vertical scan of the 'Overall' column, of the table indicates a sizeable in the number of respondent customers joining their current service providers in the last few years. 16.3 per cent of them joined in the last six months, 34.5 per cent joined in the last one year and 89.2 per cent in the last five years. This growth pattern is similar to the pattern discovered during cellular usage age analysis.

The network age frequency distribution divided over the three categories also indicates a steady growth across all of them (Table 5-2). A comparison within each category, particularly over the period of last six

months, indicates that metro category had higher growth as compared to non-metro (18.6% vs. 13.8%). Similarly, the PSU operators had higher increase in subscriptions in comparison to Private (26.9% vs. 13.8%) and the expansion of CDMA operators was higher than that of GSM (25.5% vs. 14.1%).

The growth trend indicated by network age analysis suggests that along with the increase in new subscriptions, there has also been an increase in the attrition rate of respondents.

5.3 Switching Behaviour in the Past

The network age analysis suggested that a group of respondents did switch over their service providers in past. This section, further investigates the churn and loyalty behaviour of the respondent customers in detail.

5.3.1 Churn and Loyalty Trend

In order to understand the churn and loyalty among the respondents, a new variable was computed, viz., '*Churn Period*', using the following method: –

$$\text{Churn Period} = \text{Cellular Usage Age (month and year)} - \text{Network Age (month and year)}$$

If the value of '*Churn Period*' = zero, then it means that the respondent customer never changed his service provider, else it signifies that he changed his provider. In case of latter, the value of the '*Churn Period*' obtained in months denotes, exactly when the switchover took place.

The value of the '*Churn Period*' data for each respondent was aggregated at the overall level and on the basis of three categories, namely, circle (metro/non-metro), ownership (private/PSU), and technology (CDMA/GSM).

The distribution of '*Churn Period*' of the respondents indicates that on an overall basis, about a quarter of them (25.1%) had switched to their current service provider and rest (74.9%) were loyal (Table 5-3).

Table 5-3 Overall Switching Behaviour Trend – Category wise

Whether switched	Total	Circle		Ownership		Technology	
		Metro	Non-Met	Private	PSU	CDMA	GSM
Never	408 (74.9%)	219 (76.8%)	189 (72.7%)	342 (77.6%)	66 (63.5%)	81 (76.4%)	327 (74.5%)
Yes	137 (25.1%)	66 (23.2%)	71 (27.7%)	99 (22.4%)	38 (36.5%)	25 (23.6%)	112 (25.5%)

The churn rate of 25.1 per cent is comparable to the churn figures reported by IDC India User Research group, who conducted their own survey during the same period, as that of this research. Their study concluded that, about 30 per cent of Indian cellular users are disloyal (*EconomicTimes*, 2005).

The break-up of the distribution of switching behaviour responses across the three different categories reveals that the attrition rate was higher among the non-metro subscribers (27.7%), as compared to metro (23.2%). Similarly, the churn rate was higher among PSU subscribers (36.5%), than those of private (22.4%). And the GSM subscribers (25.5%), defected more than the CDMA subscribers (23.6%).

The switching trend of the respondent customers was further, examined by constructing a time period frequency distribution, using the value of 'Churn Period' of the switchers (Table 5-4). This was again done, on overall basis, and also, for the three categories, namely, circle (metro/non-metro), ownership (private/PSU), and technology (CDMA/GSM).

Table 5-4 Frequency Distribution of Churn - Category wise

Churn Age (Months)	Overall	Circle		Ownership		Technology	
		Metro	Non-Metro	Private	PSU	CDMA	GSM
In last 12	78 (56.9%)	46 (69.7%)	32 (45.1%)	56 (56.6%)	22 (57.9%)	22 (88.0%)	56 (50.0%)
13-24	36 (26.3%)	9 (13.6%)	27 (38.0%)	20 (20.2%)	16 (42.10%)	3 (12.0%)	33 (29.5%)
25-36	20 (14.6%)	10 (15.2%)	10 (14.1%)	20 (20.2%)	(0%)	(0%)	20 (17.9%)
37-48	2 (1.5%)	1 (1.5%)	1 (1.4%)	2 (2.0%)	(0%)	(0%)	2 (1.8%)
49-60	1 (0.7%)	(0%)	1 (1.4%)	1 (1.0%)	(0%)	(0%)	1 (.9%)
Total	137 (100%)	66 (100.0%)	71 (100.0%)	99 (100.0%)	38 (100.0%)	25 (100.0%)	112 (100.0%)

It is apparent from the data in Table 5-4 that the customer churn has been on the rise across all the three category attributes, circle, ownership and technology.

The time period distribution of the table also shows that the churn rate has been on the surge since the year 2001. Out of the 137 defectors 98 per cent of them did so during the period 2001–04 (Table 5-4). Interestingly, this period of churn increase is similar to the growth phase of Indian cellular subscribers discussed in the previous section. This means that possibly the growth contributing factors during this period including the introduction of new players, emergence of CDMA, regulation of tariffs, and availability of cheaper tariff plan, not only created new cellular service users, but also induced switching behaviour among existing users. The other possible reason could be that the respondent customers did not get the expected service quality and they defected since a variety of choices were available to them.

This rise in churn rate points out, that the service providers did not adopt an effective mechanism to prevent churn. The respondent service providers in their survey also mentioned, that in the past their overall corporate strategy was more focussed on attracting new customers as the size of market was very large, and little was done to stop the defecting customers. Due to the lack of strategic focus on retention, the service providers adopted a reactive approach to churn (refer section 4.5).

5.3.2 Voluntary and Involuntary Churn

In the customers survey the respondents who switched were asked, whether at the time of switching, they had informed their service provider, and if there was any follow-up from their previous service provider to retain them. The cross-tab analysis between these two responses reveals that around 37 per cent of the respondent switchers, defected voluntarily, i.e. they informed their service providers before switching (Table 5-5). The remaining 63 per cent switchers did not inform their providers, thus, constituting involuntary churn.

Table 5-5 Churn vs. Follow-up Action

Type of Churn Action	Follow-Up by Service Provider	No Follow-Up by Service Provider	Total
Voluntary Churn	33 (65%)	18 (35%)	51 (37%)
Involuntary Churn	70 (81%)	16 (19%)	86 (63%)
Total	103 (75%)	34 (25%)	137 (100%)

The voluntary to involuntary churn ratio of 37:63, computed from the above subscriber response analysis, is within the range identified based on the information collected from the respondent service providers²³. This confirms the fact, that in the Indian cellular service industry the involuntary churn is higher as compared to voluntary churn.

Another important dimension identified through this cross-tab analysis is that the incumbent service providers followed-up their switcher only in three-fourth of the cases, and no follow-up was done for the rest. Moreover, in the case of voluntary churn, the opportunity to retain the defecting respondents was utilized only in 65 per cent of cases. This clearly indicates the inefficiency of the established churn prevention system put in place by the service providers. These results also point towards the fact that the service providers were intently focused on gaining new customers, and not much attention was given to the switching customers.

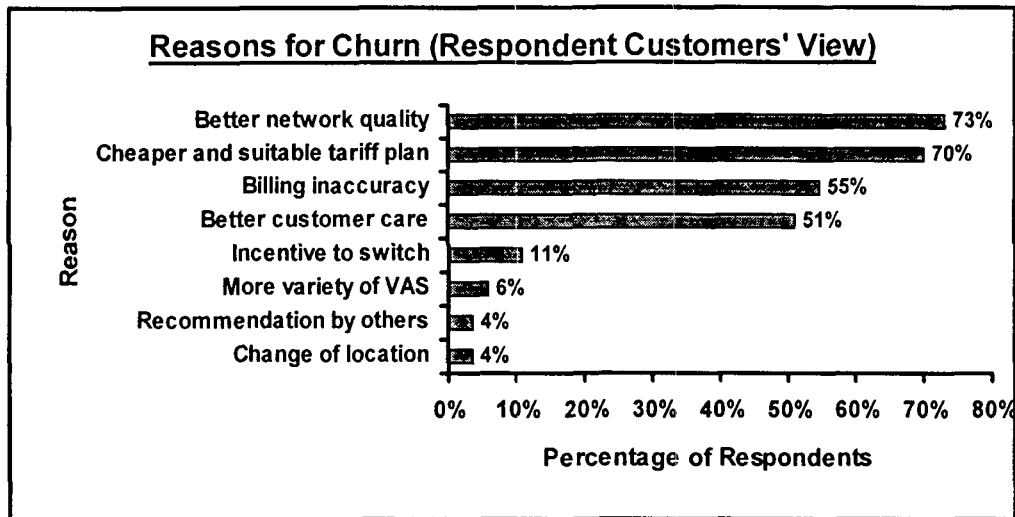
With increasing competition, the service providers need to adopt corporate philosophy that is customer-centric. Loss of customers should not just be treated as a financial loss, but should also be viewed as a failure of customer retention strategies. A proactive approach must be adopted to stop customer defection, by keeping them satisfied and earning their loyalty.

5.3.3 Reasons for Customer Defection

In order to comprehend the switching behaviour in more detail, the respondent customers who had switched to their current service providers, were asked to choose one or more reasons for their defection.

²³ Respondent service providers data, revealed that involuntary churn constitutes of 60–70 per cent of the total churn and voluntary churn constitutes the rest (refer section 4.3.1)

The cumulative frequency distribution of the respondent customers shows four prominent reasons for their defection (Fig. 5-2). These are, 'Better network availability' (73%), 'Availability of cheaper and more suitable tariff plans' (70%), 'Billing inaccuracies' (55%) and 'Better customer care' (51%). The four other reasons, that emerged include, 'Incentives given for switching' (11%), 'Change of location' (4%), 'More variety of VAS²⁴' (6%), and 'Recommendation' (4%).



(Multiple choice response)

Fig. 5-2 Reasons for Churn (Respondent Customer's View)

The reasons associated with respondent customers' decision to switch are similar to the ones described by the respondent service providers (refer section 4.3.2). This indicates that the respondent service providers are aware about the causes of their customer defection but have not done enough to minimize them. The following part of the section looks at the switching reasons of the respondent customers in detail.

- **Prominent Reasons** – The foremost reason for the customer defection is the quest for better network quality. Network quality constitutes the core of cellular service. The prominence of this reason indicates that the incumbent service providers were not able to provide their subscribers with the good communication capability, the very reason for which the cellular users bought the service.

²⁴VAS – Value-Added-Services

Core service failure as a key reason for defection is also in line with Keveaney's (1995) findings. She established that the service users are very sensitive to the core service delivery, and its failure results in, low satisfaction and attrition. Other researchers, such as, Woo and Fock (1999), Johnson and Sirikit (2002), and Kim, Park and Jeong (2004a) in their studies, also concluded that the attributes related to the network are the key contributors to cellular service users' satisfaction/dissatisfaction and hence their loyalty/defection.

The availability of cheaper and suitable tariff plan as a prominent reason for churn is a testimony to the market situation prevalent in the Indian cellular industry during 2001–04. As discussed in section 5.3.1, during this period new players entered the market, and CDMA was introduced as a cheaper alternative to GSM service (TRAI, 2005a). The new operators followed a strategy of introducing lower pricing and better tariff plans than their competitors, to increase their market share. CDMA operators in particular came into the arena, with the slogan – 'Mobiles for the masses'. This trend ushered an era of price wars between the cellular operators. As a result, the cellular operators witnessed a rapid growth of new subscriptions but also experienced switching of existing customers.

The two other reasons, billing problems and inadequate customer care, experienced by service users relate to inferior service processes of the service providers. The respondent service providers in their survey also ascertained that in the past, their customer care and billing system were not flexible and robust enough to handle the dramatic increase in their subscriber base. This led to large number of customer complaints related to inferior service support and billing.

- **Other Reasons** – A small section of respondents reported the non-availability of VAS as a reason for switching. This indicates the growing importance of these services among cellular users. Today the service providers are creating service differentials with respect to their

competitors, by providing a variety of attractive VAS. These services are targeted at different segments of markets, based on their requirements and preferences. The customers use these services for entertainment, information, and business. Akin to the voice communication, the cellular users also expect high performance of these services.

'Change of location' is an unavoidable reason for the subscriber switching. This happens when a subscriber moves to region outside the area of operation of the service provider. The reason, 'Recommendation by others' indicates that positive word-of-mouth of the satisfied customer of the competitors' can motivate other customers to defect. Finally, the reason, 'Incentives given for switching' indicates that since competition is rising and pockets of the market are getting saturated, competing service providers are also using aggressive poaching strategies including cold calling, and offering attractive sales promotion schemes to poach new customers from rival camps.

5.4 Intention to Switch

The switching behaviour of the respondent customers was further explored, by asking them about their switching intention in future, i.e., if they are planning to stay with their current service providers or have intention to switch to another operator. Overall 16.3 per cent of respondents showed their inclination to shift in future, and the rest 83.7 per cent said that they would like to stay with the current service provider (Table 5-6).

Table 5-6 Category wise Intention to Switch

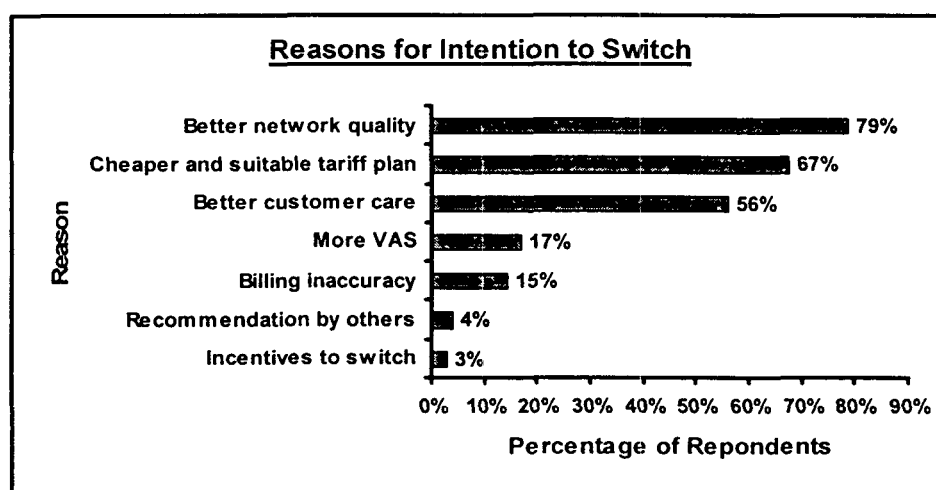
Intention to Switch	Total	Circle		Ownership		Technology	
		Met	Non-Met	Private	PSU	CDMA	GSM
No	456 (83.70%)	231 (81.1%)	225 (86.5%)	376 (85.3%)	80 (76.9%)	84 (81.6%)	372 (84.4%)
Yes	89 (16.3%)	54 (18.9%)	35 (13.5%)	65 (14.7%)	24 (23.1%)	19 (18.4%)	69 (15.6%)

The break-up of the distribution of switching intention response across the three categories reveals that, it is higher among metro subscribers (18.9%) as compared to non-metro users (13.5%).

Similarly, the likelihood of defection is higher in the PSU category (23.1%) than those in the private category (14.7%), and CDMA subscribers (18.4%) have higher potential switchers as compared to GSM subscribers. This distribution points out the area of focus where the service providers need to target their retention strategies.

5.4.1 Reasons for Intention to Switch

The respondent customers were also asked to point out, one or more reasons for their switching intention. Figure 5-3, illustrates the distribution of reasons for the potential switchers.



(Multiple choice response)

Fig. 5-3 Reasons for Intention to Switch (Respondent Customer's View)

A look at the frequency distribution of reasons uncovers three prominent influencing reasons, with Network quality being the most leading cause for future defection. In the mobile users satisfaction survey 2003, the research agency IDC India, also concluded that, the network performance of all the service providers is dismal (Voice & Data, 2003).

According to the survey the cellular users faced problems in making and receiving calls, because of in-adequate coverage and poor signal strength. In this satisfaction survey, none of the cellular operators achieved the TRAI's benchmark of 95 per cent customer satisfaction score. Network quality is a critical component of customer satisfaction and the service providers have to

make all efforts to improve its performance, since it the basic constituent of the cellular service.

The second reason 'Cheaper and suitable tariff plan' indicates that price is still an important factor that influences the decision of the customer to switch. 'Billing inaccuracies' as a reason has reduced (17%), as compared (55%) to what was discovered in the previous section 5.3. This signifies that service providers have been able to improve the level of satisfaction on this account.

The choice of 'Better customer care and support' as the third most important reason, indicates that a majority of potential switchers are not satisfied with the service support being provided to them. Effective service support is very important for high customer satisfaction and customer retention. Service providers need to improve in this area, by improving the level of service and building strong relationships with their customers, in order to avoid churn.

Around 17 per cent of users indicated that they are looking for more variety of VAS. This figure is higher than what was identified in section 5.3. This indicates that Indian cellular users are maturing in their cellular service usage. They expect greater variety and better performance of VAS.

Today, Value-Add-Services like SMS, dial-in, mobile banking, railway booking, data services for e-mail, Internet access, and other services are extensively used and their significance is growing by the day. The service providers can expect their future revenue growth from VAS, thus they need to pay attention to the changing needs of the customers.

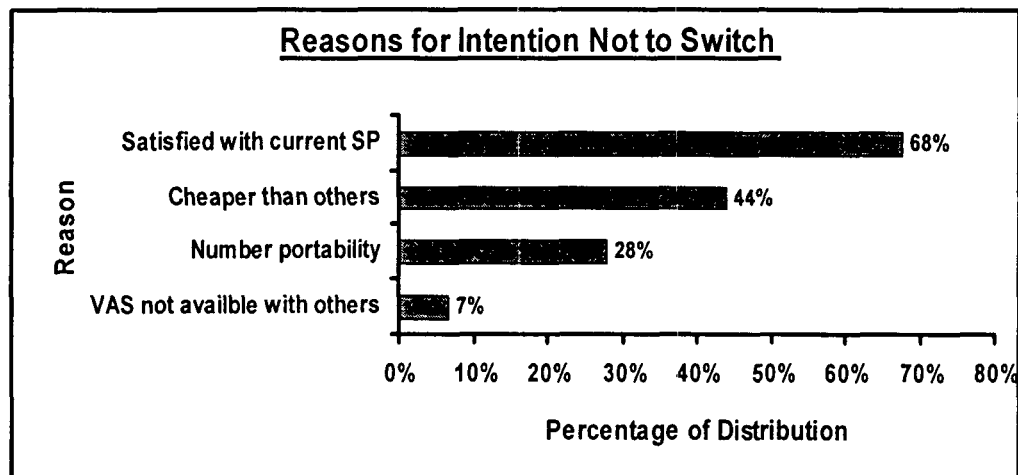
Other minor reason 'Incentives given for switching' (3%), point to the aggressive marketing tactics being used by competing service providers wherein they try to lure customers from each other's territory.

Finally, 'Recommendation by others' (4%) shows that the competitors' satisfied subscribers influence other customers to switch. This means that the service providers should focus on achieving higher number of satisfied

customers, as this will lead to positive word-of-mouth and result in acquisition of new customers at lower cost.

5.4.2 Reasons for Intention Not to Switch

The respondent customers, who showed their intention to stay with the service provider, were also asked to point out the reasons for the same. Based on their responses, a frequency distribution was prepared (Fig. 5-4)



(Multiple choice response)

Fig. 5-4 Reasons for Intention Not to Switch (Respondent Customer's View)

The frequency distribution of reasons shows that a majority of respondents (68%) do not want to shift because they are satisfied with their current service provider. This ascertains the fact, that customer satisfaction is the key to their loyalty. High customer satisfaction also indicates the positive frame of mind of the customers, which not only ensures their allegiance but also increases the probability of positive-word-of-mouth.

28 per cent of loyal respondents actually feel hostage to their service providers because of the non-availability of mobile number portability. The cellular number is a personal and business identity for many service users. The fear of losing this identity, and the hassles involved in changing the business cards, letterheads and informing others precludes subscribers from switching. With the implementation of number portability, not only a section of customers might move immediately but also this prominent barrier will be removed permanently.

Today, number portability is not available in India. However TRAI has already begun the process of consultation, to implement it soon (TRAI, 2005c). The service providers need to put their act together quickly because, with the implementation of number portability, customer defection is likely to increase, as also experienced in other cellular markets (Kim, Park & Jeong, 2004a; Gerpott, Rams & Schindler 2001)

44 per cent loyal respondents have selected the reason that the current service provider offers cheaper tariff plans than others. This reflects that the cellular market is price sensitive and the current service providers of these respondents need to maintain their price leadership in order to retain these customers. India, being a price-sensitive market, the service providers should always be on the lookout for new ways to enhance the delivered customer value. Such an approach would be difficult to replicate by the competitors and will also create effective switching barriers.

A small minority of the loyal respondents (7%) have also chosen the reason, 'VAS not available with other service provider'. As discussed earlier, the demand for VAS is increasing. Thus, their higher performance would positively contribute towards higher customer loyalty.

5.5 Customer Switching Behaviour Analysis

For the churn management and customer retention practices to be effective, a better understanding of the churn-loyalty segmentation among the service users is required. Two types of data analysis methods were used to comprehend this behaviour in detail. For the first method, 'Did Change vs. Will Change Analysis', a four quadrant matrix was prepared using two binomial variables, 'Did change to current service provider' (Yes/No), and 'Intention to switch' (Yes/No). For the second analysis, the overall satisfaction score of the each of the respondent customers was translated to high/low), and plotted against their switching intention (High - 'Likely to switch', Low - 'Not likely to switch'), based on the concept proposed by Jones and Sassar (1995).

5.5.1 Did Change vs. Will Change Analysis

In order to assess churn and loyalty trends among the respondent customers in detail, a cross-tab matrix between switching behaviour of the respondents in the past and their switching intention was prepared (Fig. 5-5).

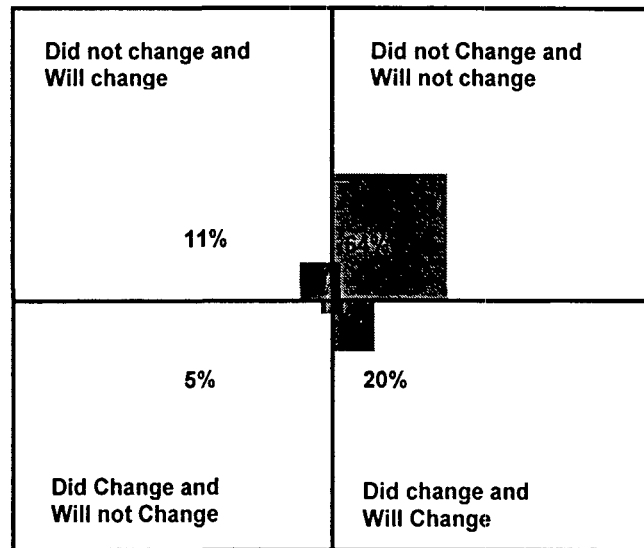


Fig. 5-5 Did Change vs. Will Change Matrix

The result of the matrix for each of the four quadrants is discussed below: –

- ***‘Did not change and Will not change’*** – This category of respondents, account for 64 per cent of the total sample. These are the loyal subscribers of the current service provider. Their respective service providers not only need to ensure that this group is maintained, but also try to maximize it, by roping in customers from other quadrants. To maintain this loyalty base, the service providers need to maintain and strive for higher customer satisfaction and superior service quality delivery.
- ***‘Did change and Will not change’*** – This group of respondents account for 5 per cent, and represents those who switched earlier but do not intend to switch their service provider in the future. Since these customers left their previous service provider, the current service provider needs to closely monitor them and ensure their loyalty.

- ***'Did change and Will change'*** – 20 per cent respondents, fall in this category representing the vagabond group. These are the wandering group of customers, who constantly shift their loyalty, based on the opportunities available. Thus, such customers may not be profitable and the right customers to retain. The service providers need to build mechanisms, which will help them to identify, and filter out such customers. Adopting such a strategy will help them to maximize their customer retention efforts, by targeting the customers, where they can get maximum returns. This way, the service providers can optimise their efforts, budget and resources.
- ***'Did not change and Will change'*** – This group (11%) represents potential switchers who have high probability to defect. Service providers need to focus on such customers and make efforts to identify the reasons for their switching intention and employ appropriate measures to retain them.

Service providers need to take into account that the 'Will not change' category may not remain static in the light of issue such as number portability, new technology, customer value differential, new entrants to market, and the cost leadership. Consequently, the service providers need to monitor, maintain, and constantly improve upon their service quality and customer satisfaction. The strategy of the service providers should be, to harness the loyalty of their customer by utilizing their positive word-of-mouth and recommendation capability.

5.5.2 Churn vs. Satisfaction

Jones and Sassar (1995) asserted that, customer satisfaction is the driver for loyalty. According to their model, based on the level of satisfaction and loyalty, the customers can be divided into four categories — **loyalist/apostle**, **defector/terrorist**, **mercenary**, and **hostage** (Table 5-7). Each of these categories has different behaviour and characteristic.

Table 5-7 Customer Satisfaction, Loyalty, and Behaviour

Category	Satisfaction	Loyalty	Behaviour
Loyalist /Apostle	High	High	Staying and supportive
Defectors/Terrorist	Low to medium	Low to medium	Leaving or having left and unhappy
Mercenary	High	Low to medium	Coming and going; low commitment
Hostage	Low to medium	High	Unable to switch and trapped

Source: Barnes (2000)

Based on the above-mentioned concept, a four quadrant 'Customer Satisfaction–Loyalty' matrix was created. The score of the variables 'Customer satisfaction' and 'Intention to switch' were mapped to High/Low (Satisfaction/Loyalty) categories (Fig. 5-6)

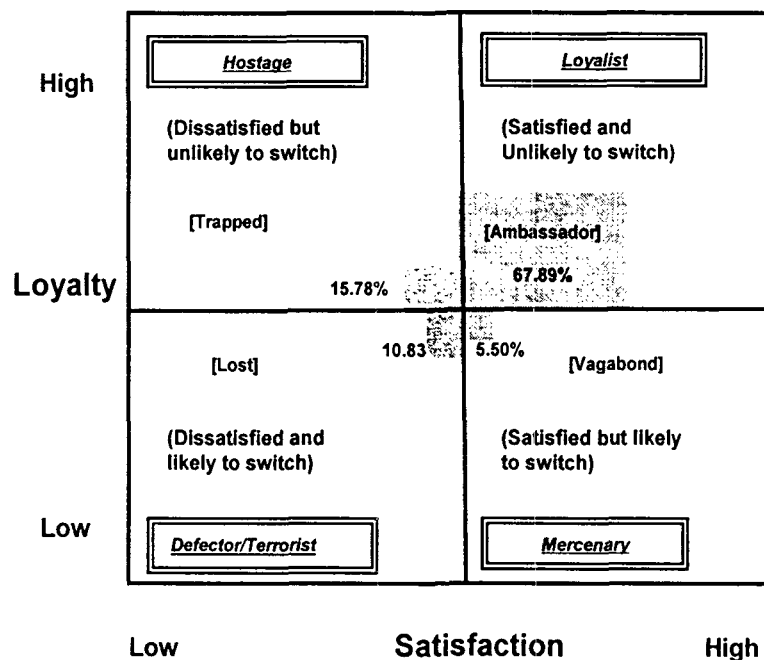


Fig. 5-6 Customer Satisfaction–Loyalty Matrix

Each of the four quadrants of the 'Customer Satisfaction–Loyalty' matrix is described in detail below: –

- **Loyalist/Apostle (67.8%):** The *loyalist* is a customer whose satisfaction and loyalty is 'high'. Generally the behaviour of such customers is of staying, supportive and can be viewed as 'Ambassadors' for their service providers. The service providers need to ensure that high satisfaction level of the loyalists is maintained in order to effectively retain them. Another

important strategy, for the service providers could be to identify 'Apostles' among this loyalist group. Apostles, will be those customers, who are so satisfied that their experiences go beyond their expectations. Such customers would not only contribute to the profitability but act as salespeople, advocating a positive word-of-mouth about the service providers.

- **Mercenary (5.5%):** The *mercenary* are those, whose satisfaction is high, but loyalty is 'low to medium' and behaviour is 'coming and going', thus, accounting for low commitment. Identification of such 'Vagabond' subscribers is very important to ensure that the efforts for retention are focused only on the profitable customers.
- **Defector/Terrorist (10.83%):** The *defectors* generally have low-to-medium satisfaction level, low-to-medium loyalty action and their behaviour suggests that they are unhappy and likely to leave. Hence, they can be considered as almost 'Lost'. These subscribers have the highest probability to defect. The service providers must identify the reason for their low satisfaction and adopt strategies to regain them. Minimizing the defectors will add to the profitability of the service providers. Ignoring them would not only hit their bottom-line, but some of the highly dissatisfied defectors (*terrorists*) would also dissuade existing/new customers.
- **Hostage (15.78%):** The *hostage* category of subscribers is the one, who has a low-to-medium satisfaction level, but high loyalty. Despite their dissatisfaction, the hostages believe that they cannot switch because either the cost of switching is high and benefits are low or no other alternatives are available. Thus, they feel 'Trapped'. Factors such as number portability, locking period of contract and/or high switching cost may be holding them back, despite their dissatisfaction. For hostages the service providers must build comprehensive mechanism to identify them and the switching barriers for holding them. Since they are potential switchers, effective retention measures should be developed.

The findings of the 'Customer Satisfaction–Loyalty matrix', illustrate two important lessons for the service providers. First, the perception of the defectors needs to be improved regarding the service quality being delivered. Second, the positive attitudes of the loyalists need to be reinforced. In addition to this, if the cost of doing business with a certain group of customers (mercenary, defector/terrorist) is too high, then filtering and regaining only the profitable ones will be the best strategy.

5.6 Suggestions for Creating Closer Proximity to the Customer

In the customer survey, few closed-ended questions were asked on certain aspects of cellular service delivery. The analysis of responses is delineated below.

- **Suggesting suitable tariff plan:** In case of post-paid cellular service, the customers initially choose, a particular tariff plan, depending on their expected usage. Over a period of time, for many users, this may not be the right one. Since the service providers have all the previous billing and usage records, it is possible for them to suggest a more fitting tariff plan to the customer, based on their history of usage pattern. In order to assess whether the service providers adopt this practice, the respondent customers were asked to convey their experience in this regard. The results are tabulated below (Table 5-8).

Table 5-8 Suggestion of Suitable Tariff Plan

Whether service provider proactively suggest suitable tariff plan (Yes/No)	
Yes	9 (1.65%)
No	536 (98.35%)
Total	545 (100.00%)

The response distribution shows that only 1.65 per cent of the sample respondents were suggested suitable tariff plan. This indicates that even though the service providers have all the necessary information to suggest a suitable tariff plan, only a very few customers benefit from it. A proactive

approach of helping the customers with suitable tariff plan would help the service providers to earn their goodwill. Even though in some cases there might be immediate financial losses to the service providers, but in exchange they will earn more trust, allegiance and profitable relationship.

- **Participation of the Customers in the Customer Feedback Survey –** Customers' feedback are important in understanding their expectations and perception about the quality of service being delivered. Their opinion forms the basis of service improvement programmes. To assess the level of participation of the respondent customers in the customer surveys conducted by the service providers, they were asked to share their involvement in this regard.

Table 5-9 Participation in Customer Surveys

Level of Participation	Response
Yes (participated)	7 (1.8%)
No (Never participated but aware of such surveys)	10 (1.83%)
Not participated, and Not aware about such surveys	528 (96.89%)
Total	545 (100.00%)

From the compilations of results (Table 5-9) it is clear that, an overwhelming majority of respondents (96.89%) have never participated in these surveys, and are also not aware them. Most of the respondent service providers confirmed that they conduct customer satisfaction surveys through external agencies, once or twice a year.

As revealed from the response of above analysis, the service providers need to take two steps. First, increase the frequency, scope and above all, increase the awareness about their feedback surveys. Second, besides the formal surveys, the customer feedback should be collected on regular basis, with specific service delivery items in focus. Such views can be collected during, customer call handling at the call centre or customer visits at point-of-sale, payment locations, and/or through emails/SMS.

- **Reward for Loyalty/High Usage/Recommendation** – In the customer survey, the respondents were asked to specify whether they have been rewarded for their loyalty, high usage or referrals made by them, and if yes, then, in what form.

Table 5-10 Reward for Loyalty, High Usage or Recommendation

Whether rewarded by the Service Provider based on their loyalty or high usage or recommendation	
Yes	7 (3.12%)
No	538 (96.8%)
Total	545 (100%)

The tabulation of the responses (Table 5-10) shows that only a minority of the respondent customers (3.12%) have received such benefits. The variety of the benefits are usually, in the form of free movie tickets, tickets for special events, discounts coupons, shopping vouchers, free minutes of talktime, free upgrade to higher tariff plan, and free SMS.

The percentage of respondents who received such benefits, compared to the high loyalist figures that emerged in previous section (around 70%)²⁵, indicates that the service providers are not rewarding their loyal customers appropriately. Moreover, in the service provider survey, it was revealed that only MTNL, out of the nine respondent service providers, is actually running a loyalty based reward programme. Lack of implementation of loyalty reward practices, by the service providers, calls for improvement in their customer retention strategy. Rewarding the loyal customer shows the acknowledgement of the service providers to their allegiance. The service providers can also use the rewards to promote higher category of products and services to their loyal customers.

- **Use of Customer Database Information** – The service providers maintain a variety of customer information, in their database. To assess if they use this data effectively, the respondent customers were asked if, on

²⁵ Refer to section 5.5.1 'Did change vs. Will change' analysis (loyalty figure 64% + 5%), and section 5.5.2, Loyalty-Satisfaction Matrix (loyalty 67.8% + 5.5%)

their special occasions such as birthday or anniversary, the service provider surprises them with special greetings or offers them some discounts. The result of the respondents' experience is described below.

Table 5-11 User of Customer Information

Wish Customers on their Birthday's/Anniversary and other Special Occasions	
Yes	10 (1.83%)
No	535 (98.17%)
Total	545 (100%)

Utilizing the database information to create bond and proximity to the customers should be a key part of the customer retention strategies. The results of above tabulation, shows that only a very thin minority (1.83%) have actually received greetings on their special occasions (Table 5-11). This clearly indicates that the service providers are not effectively utilizing the power of information available to them.

The analysis of the section indicates various areas of implementation, which the service providers can make use of to build strong relationships with their customers.

5.7 Summary

The focus of this chapter was to gain a better understanding of the growth, churn and loyalty trends by analysing various aspects of cellular service being delivered. The analysis of this chapter was based on customer survey.

To study the growth pattern among the respondents', two variables were computed, cellular usage age and network age. The time period frequency distribution of cellular usage age reflected a steady upward growth, especially in the period 2001-04. This pattern of growth was found to be in accordance with the growth pattern of the Indian cellular service industry, as reflected in the study by TRAI (TRAI, 2005a). The network age analysis also confirmed the growth trend, but also indicated increasing churn rate.

The switching behaviour analysis of the respondents revealed that around a quarter (25.1%) of them had switched to their current operator. The prominent reasons for defection were identified as dissatisfaction with network quality, availability of cheaper tariff plans, billing inaccuracies, and inadequate customer care support. A cross-tab analysis between type of churn (voluntary/involuntary) and follow-up action by their respective incumbent service providers indicated that the churn management practices of the incumbent service providers were inadequate. To illustrate, in 35 per cent cases even though the switchers informed their service provider in advance, however, there was no retention follow-up action. This analysis also revealed that the involuntary churn is higher, as compared to voluntary churn (63:37).

Further probe into the switching intentions of the respondent customers indicted that 16.3 per cent of them are likely to switch in future. The potential switchers associated this choice to three major reasons, better network quality, cheaper tariff plans and superior customer care. Other factors included availability of better Value-Added-Services, and billing inaccuracies. Correspondingly, the majority of loyalist respondents relate their satisfaction with their current service provider, with its service and price structure.

However, another dominant reason highlighted by the non-switchers, is the non-availability of number portability. It is obvious that once number portability is implemented in India, these customers will have a higher probability to switch. TRAI has already taken steps, to put mobile number portability into practice, thus the service providers can expect high churn rate in the future.

In order to assess churn and loyalty among the respondent customers in more detail, two analytical matrices were constructed. First, a cross-tab matrix between switching behaviour of the respondents in the past and their switching intention was prepared (Did Change vs. Will Change). Second, using the variables, 'Customer satisfaction' and 'Intention to switch', Satisfaction – Loyalty matrix, was prepared. Based on these analyses it can be ascertained that the service providers need to segment their customers based on their switching behaviour, level of satisfaction and profitability. This will help them to maximize returns on their retention effort. And if the cost of doing business with certain types of customers (vagabond/mercenary) is too high, then regaining only the profitable ones will be the best strategy.

Besides focusing their attention on switchers, the service providers must also take into account the loyal customers, while designing customer retention strategy. These customers may not always remain loyal with the changing markets. Changes such as number portability, new technology, new entrants, falling prices and better service offers are likely to sway these loyal customers.

The response of the customers also highlighted four measures, which should be part of the customer retention framework. Firstly, the service providers should suggest to their customers, appropriate tariff plan based on their usage pattern. Secondly, they need to increase the awareness, frequency, and scope of the customer feedback surveys. Thirdly, they should reward their customers, based on their loyalty, high usage and referrals. Fourthly, the service providers should make effective use of available customer information to create bond and closer proximity to the customers.

CHAPTER 6 – ANALYSIS OF THE SERVICE QUALITY ATTRIBUTES

6.1 Introduction

6.2 Results of Factor Analysis

6.3 Hypotheses Testing

**6.4 Determinants of Customer Satisfaction and
Switching Intention**

6.5 Importance-Performance Analysis

**6.6 Perception Gap Analysis (Service Providers,
Customers)**

6.7 Summary

Chapter 6 – Analysis of the Service Quality Attributes

6.1 Introduction

This chapter presents the results of the empirical analysis and hypotheses testing conducted using the data collected from the customer survey for this study. The chapter has been divided into five sections. The first section details the analytical results of the six-factor solution, obtained by conducting factor analysis, on the perceived performance of the 26 service quality attributes, by the respondent customers. The second section investigates the three hypotheses developed for this study, to establish the relationship between overall service quality, customer satisfaction, switching intention, and intention to recommend. The third section examines the influence of the six service quality factors, on customer satisfaction and customer's switching behaviour. The fourth section describes the findings of the IPA (Importance-Performance Analysis), conducted to identify specific areas of service improvements. The concluding section explores the perceptual gap between the respondent service providers and the respondent customers, for both, importance and performance of cellular service quality being delivered.

6.2 Results of Factor Analysis

Exploratory factor analysis (EFA) was conducted on the 26 cellular service quality attributes, measuring the perceived performance of service quality by the respondent customers. This factor analysis was performed using principal component method with varimax rotation. The technique of factor analysis was utilized to reduce the number of cellular service quality attributes from 26 to a few meaningful factors, each representing separately identifiable characteristics of cellular service.

Preliminary tests were conducted to determine appropriateness of Factor Analysis Results. These test included, Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy (MSA), Bartlett's test of sphericity, Reliability Test (Cronbach's alpha) and Inter-item Correlation Test.

The number of factors was determined by the criterion that the Eigen value should be greater than 1. The six factor solution derived by principal component factor analysis with varimax rotation indicated, 62.42 per cent of the total variance, and the minimum value for commonality to be 0.491 (Table 6-1).

Table 6-1 Results of Factor Analysis

Factors	SQ Attribute	Mean	S.D.	F1	F2	F3	F4	F5	F6	Commonality
Service Promotion and Communication	SQ5	4.64	1.50	0.820						0.491
	SQ4	4.85	1.32	0.747						0.596
	SQ3	5.01	1.38	0.691						0.623
	SQ6	5.00	1.43	0.623						0.666
	SQ2	4.72	1.37	0.600						0.721
	SQ1	5.08	1.22	0.433						0.569
Service Support	SQ20	5.14	1.32		0.716					0.518
	SQ23	4.90	1.30		0.692					0.583
	SQ22	4.83	1.23		0.689					0.615
	SQ19	4.79	1.45		0.672					0.593
	SQ21	4.82	1.40		0.623					0.690
	SQ24	5.29	1.24		0.573					0.588
Service Performance	SQ11	4.88	1.56			0.807				0.684
	SQ13	4.86	1.52			0.786				0.509
	SQ12	5.15	1.30			0.715				0.491
	SQ14	5.10	1.36			0.590				0.661
	SQ15	5.04	1.29			0.546				0.720
Service Outlet and Delivery	SQ10	5.11	1.40				0.686			0.624
	SQ9	4.89	1.30				0.543			0.566
	SQ7	5.50	1.31				0.528			0.675
	SQ8	4.94	1.34				0.523			0.612
Service Billing And Payment	SQ17	5.29	1.36					0.773		0.655
	SQ16	5.06	1.50					0.747		0.659
	SQ18	5.40	1.31					0.598		0.588
Service Bundling and Pricing	SQ26	5.11	1.27						0.783	0.769
	SQ25	5.07	1.23						0.738	0.765
Eigen Value				3.62	3.34	3.18	2.35	2.00	1.71	
Total variance explained	% of variance			13.95	12.85	12.23	9.05	7.72	6.590	
	Cumulative % of variance			13.95	26.81	39.05	48.10	55.83	62.42	
Number of attributes in each factor				6	6	5	4	3	2	
Standardized Cronbach's alpha				0.847	0.852	0.781	0.751	0.711	0.786	

The Kaiser–Meyer–Olkin (KMO), for this solution was found to be 0.926. The KMO value indicates the degree of common variance for the factor solution. The closer the KMO value is to 1, the better the factor analysis (Hair et al., 1994). Thus, KMO value at 0.926, for this study was considered good.

The Bartlett test of sphericity, with a value of 6,284.73, was found to be significant at the 0.05 level. This also confirmed the appropriateness for the factor analysis model.

Next, the reliability coefficient (Cronbach's alpha value) was calculated for six factors (Table 6-1). According to Schuessler (1971), the alpha value should be greater than 0.60, for a good factor solution. Since this value of each of derived factor is greater than 0.6, the six factor solution was considered acceptable. In addition to the Reliability test, Inter-Item Correlation analysis within each of the factors was also calculated. For each of the six factors derived, the coefficient of correlation was found to be significant at 1 per cent, within each group and all the correlation values were found to be greater than 0.30 (refer Appendix 2, Table A-5 Inter-Item Correlation Matrix for Six Service Quality Factors). In factor analysis, some degree of multi-collinearity is desirable, because the objective is to identify interrelated sets of variables. According to Hair et al. (1994), if the value of the coefficient of correlation among all the variables is greater than 0.30, then factor analysis is considered to be appropriate.

To summarise, all preliminary test, Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy (MSA), Bartlett's test of sphericity, Reliability Test (Cronbach's alpha), and Correlation analysis, confirmed the statistical appropriateness of the six factor solution. The factors that emerged also represented a logical cohesiveness. The details of each of these derived factors, follows next.

- **Derived Cellular Service Quality Factors**

The naming of the six service quality factors was done on the basis of the service quality attributes they represented. The six factors derived from factor analysis were named as, 'Service Promotion and Communication', 'Service Support', 'Network Service', 'Service Outlets', 'Service Billing and Payment' and 'Service Bundling and Pricing' (Table 6-2).

Table 6-2 Derived Factors and Related Service Quality Attributes

Factor Description	SQID	Service Quality Attribute Description
Factor 1: Service Promotion and Communication – This factor relates to advertisement and sales promotion activities of the service provider including brand building and customer relationship. (Marketing mix component represented: 'Promotion')	SQ5	Provider gives complete and correct information about products and services
	SQ4	Provider gives attractive sales promotion schemes as compared to competitors
	SQ3	Provider provides up-to-date information about sales promotion schemes
	SQ6	Advertisements are effective in purchase decision
	SQ2	Provider strives for building relationship and is committed to subscriber needs
	SQ1	Provider with high reputation
Factor 2: Service Support – This factor is associated with the customer care and support for cellular service provided by the service provider. (Marketing mix component represented: 'People'/'Process')	SQ20	Politeness and courteousness of the service staff
	SQ23	Service Support staff have sufficient knowledge
	SQ22	Service support staff show real interest in solving problems
	SQ19	Ease of getting through to customer care centre
	SQ21	Whenever something is promised, it is done within the given timeframe
	SQ24	Provider keeps accurate records
Factor 3: Network Service – This factor is representative of the core service (voice communication) and other VAS, provided to the cellular service user. (Marketing mix component represented: 'Product')	SQ11	Network availability
	SQ13	Quality and clarity of voice
	SQ12	Range of coverage
	SQ14	Availability of roaming service
	SQ15	Availability and performance of VAS
Factor 4: Service Outlet – This factor represents the service intermediaries (Dealers/Retailers) and their sales support staff team who service the cellular service user. (Marketing mix component represented: 'Place'/'Physical Evidence'/'Process')	SQ10	Process for getting subscription and termination
	SQ9	Promptness, courteousness of the sales person
	SQ7	Ease of locating dealer/retailer
	SQ8	Ability of retailer to provide complete information on tariff plans and service packages
Factor 5: Service Billing and Payment – This factor relates to the bills received by the cellular service users at the end of the month, and its payment. (Marketing mix component represented: 'Process')	SQ17	Ease of reading and understanding the bill
	SQ16	Accuracy of billing
	SQ18	Ease of accessing payment location
Factor 6: Service Bundling and Pricing – This factor is linked to the packaging and pricing of the cellular services being offered. (Marketing mix component represented: 'Price')	SQ26	Appropriateness of pricing
	SQ25	Appropriateness of tariff plans and service packages

The six cellular service quality factors, that emerged, embody the seven P's of the marketing mix for services, namely Product, Price, Place, Promotion, People, Processes, and Physical evidence (Table 6-2). The component of Physical evidence is less perpetuated, because the intangibility factor in the cellular service is quite high. However, it is reflected through dealers, retailers, cellular network, service support centre, and overall service experience.

The factors that emerged on the basis of factor analysis also signify another dimension of service marketing, namely, the 'Touch Points'. Touch points are the points on which the service user interfaces with the provider and encounters service. The performance of the service providers, at each of these points of service encounter, contributes to the overall perception of the customer about the quality of service, being delivered. The following part of the section describes each of the factors in more detail.

- **Factor 1: Service Promotion and Communication** – This factor signifies the advertisement, promotion, and other constituents of communication mix through which service providers reach out to their customers (Table 6-2). Service providers use marketing and promotion tools not only to launch their products/services/schemes but also to propagate their corporate image, and for brand building.

The factor, 'Service Promotion and Communication' plays a very important role of connecting the service providers with their potential and existing subscribers. The customers always need to know, the complete and correct information about the products and services, being offered. The service providers must also offer and find ways to effectively communicate the competitive and attractive sales promotion schemes to their customers. In this regard the advertisements, which form an essential part of the promotion-mix, play an important role. The advertisements should be designed in a manner that conveys the provider's strength and also help the customers in their purchase decision.

The inclusion of service quality attributes, 'SQ1 – Provider with high reputation' and 'SQ2 – Provider strives for building relationships and is committed to subscriber needs', in this factor, was also found to be appropriate. The characteristics such as high reputation, building relationships and commitment to customer's needs, are an integral part of service providers' overall corporate image. Service provider's corporate image is established through their high service performance and having an effective promotion mix.

- **Factor 2: Service Support** – This factor constitutes all the service quality attributes, through which the service providers service their customers (Table 6-2). Service provider's service support team operates from the call centre to carry out this function. The service support is the nerve centre of a cellular service organization, since most of customer interaction and service provisioning activities are done from here. The service support is responsible for pre-sales, on sales, and post-sales support activities. Additionally, it also, includes handling of customers' queries, and complaints, and churn management. Since the service support is an essential constituent of cellular service, the service experience of the customers at this touch point is a critical contributor to their satisfaction, and plays a vital role in building effective customer relationships.

The service comes not from technology but from people i.e. service support staff. Their communication and customer interfacing skills, along with the knowledge about the product and services, are prerequisite to superior customer service. At every interaction with the customer, the service support team needs to demonstrate their sincerity and involvement. Service assurance, reliability, and ease of getting through to the call centre, constitute the other critical components of good quality service support.

- **Factor 3: Network Service** – This factor represents the core service and its delivery to the cellular user (Table 6-2). The backbone of the cellular service is communication infrastructure that makes the service possible. It

facilitates both, voice communication, and the usage of Value-Added-Services (VAS). The service quality attributes, viz., 'network availability' and 'range of coverage', facilitate uninterrupted availability of connectivity at all times, along with good quality signals. This implies that the quality of voice during conversation should be free of echo, crackling or any other disturbance. Along with the basic voice service, the availability of wide variety of VAS is also an important constituent of the cellular service usage. The roaming service attribute enables the service users to continue to use the service, while being on the move, at any national or international destination.

- **Factor 4: Service Outlets** – This factor covers the dealers, retailers, showrooms and other distribution channels through which the service providers make sales and give after-sales-support (Table 6-2). This factor also represents the customer facing unit of the service provider, and therefore, delivery of high customer satisfaction at this touch point is essential. The dealers/retailers network should be widespread, so that the customer can easily locate them. This is required, especially, in India, as the geographical and the population distribution, are very high.

The sales representatives of the dealers/retailers should have complete information about the product/services being offered. They should also have strong communication and customer handling skills. Since the dealers/retailers, have a considerable customer interactions, both these attributes play a key role in projecting a good image of the service provider.

The presence of the service quality attribute 'SQ10 – Process of getting subscription' in this service quality factor was found to be acceptable. The dealers/retailers are actually the ones who are mainly responsible for the entire process of pre-activation procedure for a post-paid cellular service user. These include customer registration, their identity and address verification, and handling of all other documentation work, required for new subscription/upgrades.

- **Factor 5: Service Billing and Payment** – This factor is related to billing for the service usage and the collection of the related payment (Table 6-2). Based on the usage of different services, and the tariff plan of the customer, the service provider calculates the monthly charges, and a bill (statement of the charges), is generated. This statement indicates how much the customer needs to pay.

Bills sent to the customers, should be easy to read and understand. All the billing calculations and explanation of the charges presented on the bill should be self-explanatory. Accuracy of the billing, deals with preciseness and correctness of calculation of the billing charges. This also takes into account, factors such as the use of correct rates as per the tariff plan, use of the actual duration, application of appropriate discounts/taxes, and proper adjustment of past payments/due amounts. The service providers need to ensure that their billing process reflects reliability and trust of the customers in their business processes.

Ease of accessing payment locations is also included in this factor, since payment of bills for post-paid customers is made through payment points. These may include drop boxes, and payment collection points.

- **Factor 6: Service Bundling and Pricing** – This factor relates to the packaging and pricing of the cellular services to the customer (Table 6-2). The service bundling and pricing of cellular service needs to take into consideration, the variety of cellular users available, and their different requirements. Generally, the spectrum of the cellular users is wide, from low-end basic service users to high-end sophisticated users. The service providers need to design different service packages, comprising of a variety of cellular services, keeping in mind the diverse requirement. Similarly, the tariff plan need to be also conceived taking into consideration the different customer segments and demographics. Most importantly, the pricing of cellular service should be appropriate, affordable and competitive.

6.3 Hypotheses Testing

This section presents the results of the three hypotheses that investigate the degree and direction of relationships between variables, captured in the customer survey, viz., 'Overall Service Quality', 'Customer Satisfaction', 'Intention to Switch', and 'Intention to Recommend'.

- **Result of Hypothesis 1**

- **H1:** *The higher the overall service quality perceived by a customer, the higher will be the customer satisfaction.*

The results of the regression analysis show that the coefficient of the regression equation, between overall service quality and customer satisfaction is statistically significant at the 0.01 level (Table 6-3).

Table 6-3 Regression between Customer Satisfaction and Overall Service Quality

Hypothesis	H1	
Dependent Variable	Customer Satisfaction	
Independent Variable	Overall Service Quality	
R square	0.712	
ANOVA	F-value	1341.5
	P-value	0.000**
Regression Coefficient	Constant	0.497
	Beta	0.844
	P-value for Beta	0.000

**Significant at 1%

The proportion of variation in the dependent variable, explained by the model was found to be 0.71(R^2). This indicates that the model fits the data well. The larger value of R^2 indicates that there is a strong relationship between overall service quality perceived and customer satisfaction. To further ascertain the relationship between the variables, correlation analysis was done between these variables (Table 6-4).

Table 6-4 Correlation Matrix: Overall Service Quality and Customer Satisfaction

Spearman Correlation	Overall Service Quality	Customer Satisfaction
Overall Service Quality	1.000	
Customer Satisfaction	0.818**	1.000

** Spearman correlation is significant at the 0.01 level (2-tailed)

The results of the correlation analysis confirm that the relationship between 'Overall Service Quality' and 'Customer Satisfaction' is significant ($p = \sim 0.000$). The high value of Spearman Correlation coefficient (0.818) also illustrates that the linearity of the relationship between them is high and that the direction is positive. This implies that, the higher the perception of the service quality, the higher will be the customer satisfaction.

Based on the findings of the regression and correlation analysis, it can be concluded that there is a strong positive correlation between overall service quality and customer satisfaction. Thus, the hypothesis that overall service quality is positively related to customer satisfaction is statistically accepted. The result of this hypothesis is in line with the previous researches on this relationship (Oliver, 1993; Spreng and Mackoy, 1996). Researchers such as Wang, (2002), and Kim, Park, & Jeong, (2004a) arrived at similar conclusions in their studies of cellular service in Chinese and South Korean markets respectively. The results of this hypothesis clearly convey an important message to the cellular service providers. They need to constantly work on delivering, high service quality in order to achieve higher customer satisfaction level.

- **Result of Hypothesis 2**

- **H2:** *The higher the level of customer satisfaction, the lower will be the intention to switch.*

According to the Gamma analysis, the relationship between the variables 'Customer satisfaction' and 'Intention to switch' was found to be significant at 0.01 (Table 6-5). The value for Gamma in this test was found to be (-0.62). The negative sign is accounted for by the fact that, while describing the parameters for the variable 'Intention to switch' during the Gamma test, numeric value of '2' denoted the customers who were likely to switch and '1' represented the ones who did not intend to switch.

Table 6-5 Symmetric Measures: Customer Satisfaction and Intention to Switch

Variables	Gamma Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Customer satisfaction and Intention to switch	-0.602	0.071	-6.706	0.000**
Overall service quality and Intention to switch	- 0.574	0.071	-6.434	0.000**

** Significance at 1%. (a) Not assuming the null hypothesis. (b) Using the asymptotic Standard error assuming the null hypothesis.

The high negative value of Gamma shows that, there is a high degree of significant non-linear relationship between customer satisfaction and switching intention of the customer. Correlation analysis, subsequently conducted between these two variables, also confirmed the same result (Table 6-6)

Table 6-6 Correlation Matrix: Customer Satisfaction and Intention to Switch

Spearman Correlation	Overall Service Quality	Customer Satisfaction	Intention to Switch
Overall Service Quality	1.000		
Satisfaction	0.818**	1.000	
Intention to switch	-0.316**	-0.377**	1.000

** Spearman Correlation is significant at the 0.01 level (2-tailed)

The Spearman Correlation coefficient of -0.377 between 'Customer satisfaction' and 'Intent to switch' proves that they are negatively correlated and significant at 0.01. This confirms that, the higher the customer satisfaction, the lower will be the intention of the customer to switch.

Based on the findings of the Gamma and correlation analysis, the hypothesis that higher the level of customer satisfaction, the lower will be the intention to switch is statistically accepted. The result of this hypothesis is in line with precedent studies done in the German, French and Chinese cellular markets by Gerpott, Rams and Schindler (2001), Lee, Lee, Feick (2001) and Wang (2002) respectively. The acceptance of this hypothesis denotes that if the service providers will raise the level of customer satisfaction, then, they would be able to counter the switching behaviour of their customers.

The results of hypothesis 1 and hypothesis 2 were further analysed to understand the relative importance of service quality and customer satisfaction on intention to switch. A comparison of Spearman Correlation values between customer satisfaction and overall service quality over intention to switch (value of -0.377 as compared to -0.316 respectively: Table 6-6), reveals that customer satisfaction has a stronger influence over intention to switch as compared to service quality. Similarly, the comparison of Gamma values between customer satisfaction and overall service quality over intention to switch (-0.602 as compared to -0.574 respectively; Table 6-5) also reconfirms this fact. Therefore, it can be concluded that for effective customer retention, the service providers not only need to deliver high quality service, but also must ensure that customer satisfaction during every service encounter is high. Thus, delivering, monitoring, and measuring service quality should be key components of customer retention strategy framework.

• Result of Hypothesis 3

- **H3:** *The higher the level of customer satisfaction, the higher will be customer's intention to recommend.*

To test the above hypothesis, Gamma analysis, was conducted between the variables 'Customer satisfaction' and 'Intention to recommend'.

Table 6-7 Symmetric Measures: Customer Satisfaction and Intention to Recommend

Variables	Gamma Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Customer satisfaction and Intention to recommend	.678	.038	14.280	.000 ^{**}

^{**} Significance at 1%. (a) Not assuming the null hypothesis. (b) Using the asymptotic standard error assuming the null hypothesis.

The Gamma value was found to be 0.678 and significant at 0.01 (Table 6-7). This confirms that there is a high degree of significant linear relationship between the variables customer satisfaction and intention to recommend.

Correlation analysis further validated the results of Gamma analysis. The value of Spearman Correlation was reported as 0.582, significant at 0.01 (Table 6-8).

Table 6-8 Correlation Matrix: Customer Satisfaction and Recommendation

Spearman Correlation	Customer Satisfaction	Recommendation
Satisfaction	1.000	
Recommendation	0.586**	1.000

**Spearman Correlation is significant at the 0.01 level (2-tailed)

Based on the results of the Gamma and Correlation analysis, the hypothesis that, higher the level of customer satisfaction, higher will be the intention to recommend was statistically accepted. The result of this hypothesis is in line with the precedent studies (Richins, 1983; Singh, 1988). It substantiates the fact that, satisfied customers recommend and spread positive-word about their service provider.

To sum up, the three hypotheses conclude that causal relationship between service quality and customer satisfaction is positively related. Customer satisfaction, in turn, is negatively related to switching behaviour and positively linked to recommendation. The hypotheses results are in accordance with previous studies (Zeithaml et al. 1996; Zahorik & Rust 1992; Boulding, Kalra, Staelin & Zeithaml, 1993), which recognized that service quality and customer satisfaction strongly influence customer's behavioural intentions. Figure 6-1, encapsulates the relationship established through the acceptance of the three hypotheses.

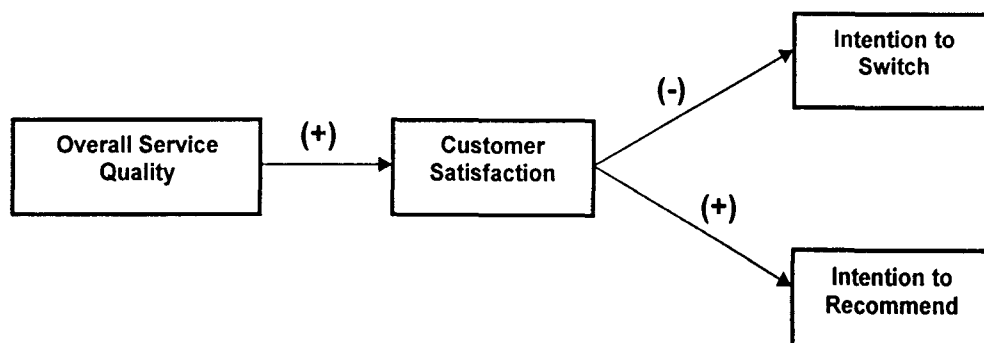


Fig. 6-1 Hypotheses Results (Variables and their Interrelationships)

The acceptance of the three hypotheses establishes the applicability of the relationship between service quality, customer satisfaction and behavioural intentions, such as intention to switch and intention to recommend in the context of the Indian cellular service industry. These relationships, give a very strong direction to the cellular service providers for building effective customer retention strategies. Constant delivery of high service quality and superior customer satisfaction should be the essential components of such a strategy. Relentless efforts to raise the perception of service quality, would lead to enhanced customer satisfaction. Consequently, satisfied subscribers will have lower switching intentions. These customers will not only be loyal but also spread the positive-word-of-mouth about the service and recommend it to others.

6.4 Determinants of Customer Satisfaction and Switching Intention

The six factors derived through the factor analysis embody the perceived performance of the cellular service being delivered. In this section, the relationships between these service quality factors, and variables 'Customer satisfaction' and 'Intention to switch' have been examined. The objective of this analysis is to comprehend, which of the six factors influences them the most.

- **Factors Influencing Customer Satisfaction** – Regression analysis was conducted, using six service quality factors as independent variables and customer satisfaction as dependent variable (Table 6-9).

Table 6-9 Regression Analysis Service Quality Factors and Customer Satisfaction

R-square (adj.) - 0.531 ^a	Sig. (p-value) 0.000**
Independent Variable	(t statistics)
Factor 3: Network Service	9.191**
Factor 1: Service Promotion and Communication	7.409**
Factor 5: Service Billing and Payment	4.858**
Factor 6: Service Bundling and Pricing	4.633**
Factor 2: Service Support	4.145**
Factor 4: Service Outlet	4.014**

Note: **Signifies level of significance at 0.01, ^a Dependent Variable: Customer Satisfaction

It is evident from the regression analysis that all six factors have significant influence on customer satisfaction. The coefficient of regression for all the six factors is statistically significant at 0.01 level ($p = \sim 0.000$) with the value of R^2 -adj (53%). The value of R^2 is not considerably high, which indicates, that there might be other variables, which influence customer satisfaction that this regression equation did not take into consideration.

The degree of importance of each independent variable is explained by the value t statistics (Table 6-9). Based on these values it can be ascertained that the most influential predictor of customer satisfaction is Network Service. The remaining service quality factors in the order of their importance are – Service Promotion and Communication, Service Billing and Payment, Service Pricing and Bundling, Service Support, and Service Outlets.

The outcome of this analysis indicates that the service providers need to improve the quality of service on all the six factors in order to increase customer satisfaction. However, they need to set special focus on the performance of network service, as this is the most prominent contributing factor.

- **Factors Influencing Intention to Switch** – To identify the service quality factors, which influence the customer's switching intention, a discriminant function analysis was carried out.

The standardized canonical discriminant function coefficient test was performed using stepwise method²⁶ to determine which of the six service quality factors discriminate between switchers and non-switchers. The grouping variable 'Intention to switch' was defined with two values, '1' – likely to switch and '2' – unlikely to switch. Table 6-10 summarizes the result of this test.

²⁶ For the stepwise method, the value for entry was 3.84 and the value for removal was 2.71

Table 6-10 Summary of Canonical Discriminant Functions

Service Quality Factors Discriminating Switchers		
Service Quality Factor	Standardized Discriminant Function Coefficient	Value of the Discriminant Function (Structure Matrix)
Network Service	0.762**	.717
Service Pricing and Bundling	0.486**	.439
Service Promotion and Communication	0.413**	.370
Service Support	0.314**	.297

**Significant at 0.000

Four service quality factors appeared significant in the discriminant function structure matrix for switchers' viz. 'Network Service', 'Service Pricing and Bundling', 'Service Promotion and Communication', and 'Service Support'. Out of these factors, the most discriminating factor is 'Network Service'. Moreover, this result also highlights that the factors, 'Service Outlet', and 'Service Billing and Payment' do not play a significant role in discriminating between switchers and non-switchers. This may be explained by the fact that all the cellular operators have focused on improving their service functions related to billing, payment, and service intermediaries.

The result of the above analysis, defines the areas of service improvement that must be undertaken by the service providers on priority basis, in order to counter the switching intentions of their customers. As revealed in the analysis of customer satisfaction the cellular service providers need to critically focus on ensuring that their subscribers get high quality cellular service usage experience at all times.

6.5 Importance-Performance Analysis

In order to determine the critical components of an effective customer retention strategy, the Importance-Performance analysis (IPA) tool developed by Martilla and James (Martilla & James, 1977) was used. The objective of this analysis was to draw a better understanding about respondents' evaluation of the importance and performance of each of the 26 service quality attributes. This analysis not only helped in understanding customer's

perception about their cellular service experience in simple and visual terms but also identified specific service quality attributes that should be emphasized and prioritized for improvement.

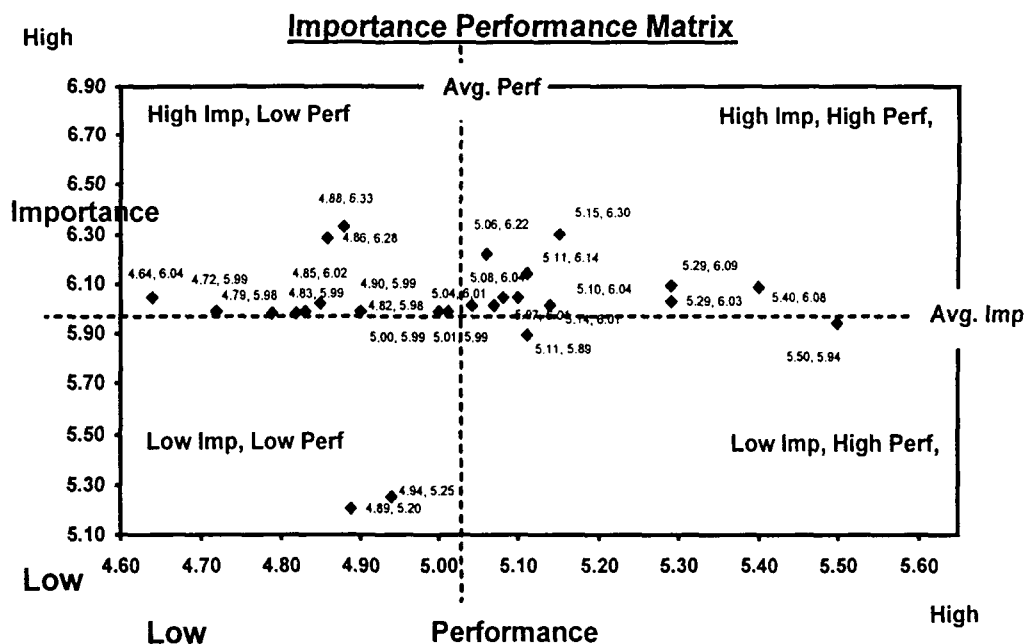


Fig. 6-2 Importance-Performance Matrix

To construct the IPA matrix, the method suggested by Crompton and Dury, (1985) was used. Paired value of mean scores of each of the 26 service quality attributes (x: performance, y: importance), were plotted to determine their placement on the grid (Fig. 6-2).

The overall performance and importance mean scores of all the 26 service quality attributes were then used to divide the grid into four quadrants of IPA matrix. The following part of the section discusses each of four quadrants of the IPA matrix (Fig. 6-2), in detail.

Quadrant I: High Importance, Low Performance (Areas for Improvement)

This quadrant includes those service quality attributes, for which the respondent customers' perception is of high importance and low performance. These attributes highlight the areas of service improvement on which the

service providers must pay immediate attention. The following eleven service quality attributes emerged in this quadrant: –

Quadrant I – Service Quality Attributes: Description (Performance Mean, Importance Mean)

- **SQ11:** Network availability (4.88, 6.33)
- **SQ13:** Range of the cellular coverage (4.86, 6.28)
- **SQ19:** Ease of getting through to the customer service helpline/helpline (4.79, 5.97)
- **SQ21:** Whenever something is promised, it is done within the given timeframe (4.82, 5.98)
- **SQ22:** The service support staff show sincere interest in solving queries/problems (4.83, 5.99)
- **SQ23:** Service support staff has sufficient knowledge and are efficient in resolving queries/complaints (4.90, 5.99)
- **SQ2:** Provider strives for building relationship with its subscribers and is committed to their needs (4.72, 5.98)
- **SQ4:** Attractive sales promotion schemes launched as compared to the competitors (4.85, 5.65)
- **SQ5:** Provider provides up-to-date information about sales promotion schemes (4.64, 5.59)
- **SQ3:** Provider provides complete and true information about products and services (5.01, 5.99)
- **SQ6:** Advertisements are effective in purchase decision (5.00, 5.99)

These attributes are associated with different aspects of cellular service. The service quality attributes SQ11 and SQ13 relate to the core of the cellular service viz. of cellular network, whereas, SQ19, SQ21, SQ22, SQ23 are related to service support. The SQ2 attribute signifies the capability of the service providers to assess the needs of their customers and their orientation to build effective relationship with them. Finally, the SQ3, SQ4, SQ5, and SQ6 relate to sales promotion and advertising aspect of service. The details of each of these groups appearing in this quadrant have been discussed below.

- **Attributes related to cellular network** – Both, the attributes of ‘Network availability’ (SQ11), ‘Range of coverage’ (SQ13) are associated with communication capabilities of cellular service. Network availability, relates to the signal strength, traffic congestion regulation, and volume handling, during all times of the day. Range of coverage, on the other hand implies the ability to make/receive calls to and from inside buildings, basements, lifts, town limits, highways, or from moving vehicles. Low performance on both these attributes indicates that the existing number of communication networking units and their quality is inadequate.

From the analysis of the Quadrant I it can be concluded that, the service providers have not been able to keep pace with the expansion of their

subscriber base and coverage area. To ensure high-quality cellular communication, it is imperative for the service providers to increase their network capabilities, improve the network range, and upgrade the existing infrastructure or install new ones.

As the results of the empirical analysis, in the previous section also revealed that the service quality factor of 'Network Service' is a major determinant of customer satisfaction and intention to switch. Thus, the service providers need to adopt specific measures to improve the service experience on these attributes, to arrest defection because of this reason.

- **Attributes related to service support** – Providing effective customer service support is the key to the overall cellular service delivery. With the ever-increasing cellular customer base, service providers need to focus on providing high quality customer support services. Lower performance of the attribute SQ19 reveals the difficulty faced by the cellular users to reach the service support helpline. The service support team operates mainly through the call helpline. Since this is the first gateway for the subscribers to reach their service providers, there is a need to enhance the infrastructure for handling incoming-calls.

The service quality attributes SQ21, SQ22, and SQ23 relate to the shortfall in the performance of service support staff regarding their reliability, knowledge, customer handling skills and efficiency in resolving queries/complaints. The service support team is an important interface between the customer and service provider. Thus, it is important that it should be able to perform effective and efficient customer handling, based on thorough product and process knowledge.

The service providers need to train their staff with a customer-centric approach, and educate them, that every chance of interface with the customer is an opportunity to 'delight' him. As part of the training, the service providers also need to work on the reliability dimension of their service support team. Low performance on this attribute reflects that

respondent customers do not perceive their service provider to be reliable. Reliability is recognized as the most important determinant of perception of service quality (Parasuraman et al. 1988). This dimension reflects the service provider's capability to deliver the promised service, dependably, within time and quality.

- **Attribute related to building customer relationships and understanding their needs** – The appearance of SQ2 attribute in this quadrant signifies that the service providers are not doing enough to develop closer proximity to their customers. Building lasting relationships is the key to customer retention, and profitability. To achieve this, the service providers should constantly monitor the changing needs of their customers and act upon them at the right time. The service providers also need to work towards a more customer-centric approach in their service delivery systems. Adopting such an approach within their service culture will help them to build effective relationships with their customers and earn their loyalty.
- **Attributes related to sales promotion and advertising** – Sales promotion and advertising are necessary to reach out to the customers. It is not only necessary for the service providers to be ahead of their competitors and to come out with attractive sales promotion schemes (SQ4). They also need to ensure that these schemes continuously reach the targeted customers (SQ5). Providing complete and true information (SQ3) at the right time, to the right audience is important so that the customer can take proper purchase decisions (SQ6). In essence, it is evident that the service providers need to refine their overall sales promotion and advertising strategies, keeping in mind the wide variety of audience and their diversified expectations.

To summarize, all the attributes that appear in 'High importance, Low performance' quadrant, constitute the action plan for the service providers. The identified attributes require immediate corrective action and should be

given top priority. If the performance on these attributes does not improve, then the customer dissatisfaction would increase and so would defection.

Quadrant II: High Importance, High Performance (Keep Up the Good Work)

The attributes in this quadrant indicate that the service providers are focusing their service strategy in the right areas, and are delivering what is most required by their service users. These areas of cellular service have emerged as areas of strength, and the service providers need to ensure that they will continue to maintain them. Eleven service quality attributes transpired in this quadrant, covering different aspects of cellular service usage.

Quadrant II – Service Quality Attributes: Description (Performance Mean, Importance Mean)
<ul style="list-style-type: none"> • SQ12: Quality and clarity of voice (5.15, 6.3) • SQ14: Roaming service (5.10, 6.04) • SQ15: Availability and Performance of VAS (5.04, 6.01) • SQ16: Billing accuracy (5.06, 6.22) • SQ17: Ease of reading and understanding the bill (5.29, 6.09) • SQ20: Politeness, courteousness of the service staff (5.14, 6.01) • SQ24: Provider maintains accurate data records of all transactions (5.29, 6.03) • SQ25: Appropriateness of tariff plans and service packages (5.07, 5.99) • SQ18: Ease of accessing payment location (5.40, 6.08) • SQ26: Appropriateness of pricing (5.11, 6.14) • SQ1: Provider with a high reputation, professional outlook and brand image (5.08,6.04)

The service attributes SQ12, SQ14 and SQ15 are associated with the cellular network. SQ16, SQ17 and SQ18 are elements of billing and payment. SQ20 and SQ24 relate to service support and SQ25, SQ18, and SQ26 are linked to packaging and pricing. Service providers are also doing well on account of promoting their brand image and professional outlook (SQ1). The following part of the section describes in detail each of these service areas.

- **Attributes related to cellular network** – Quality of voice (SQ12), availability of good roaming service (SQ14) and the availability and performance of VAS (SQ15) are key constituents of the core cellular service. It is clear from the ratings by respondents that service providers are performing well on these aspects. Good performance in the quality and clarity of voice indicates that the throughput of the network infrastructure is

good, giving subscribers a satisfying conversation experience. The service providers have also been able to provide good roaming service to their users. Since mobility is an essential component to cellular service, the service operators have gone into agreements with other national and international service providers to offer continuous global connectivity to their users.

Today VAS are a major source of revenue, therefore, the service providers lay lot of emphasis on offering a wide variety of VAS and their performance. The high importance of VAS also indicates that the Indian user is more mature in terms of cellular usage and gives a lot of significance to them.

- **Attributes related to billing and payment** – Post-paid subscribers receive monthly bills for their usage of service. High performance of the billing attributes viz., accuracy of billing (SQ16) and the ease of reading and understanding the bill (SQ17), represent the confidence of respondent customers in the rating and billing systems of their service providers. The service providers lay a lot of importance on the billing process, as it is directly related to the revenue cycle especially in case of post-paid service. Similarly, they also give lot of emphasis on facilitating easy access to payment locations for their customers (SQ18). This is to ensure that the bill settlement process has a shorter life cycle. An efficient process also gives the service providers an added advantage of being able to identify the defaulters, who may be potential involuntary switchers.
- **Attributes related to pricing and packaging** – Another important dimension where the service providers have performed in line with the expectations of their customers is the packaging and pricing of cellular service (SQ25, SQ26). The Indian cellular market is very price-sensitive and competitive. It is evident from the appearance of these attributes in the Quadrant II, that the service providers have understood this fact well and are working accordingly. The service providers are adapting their pricing

and packaging strategies according to the dynamics of the market, to be able to offer their services at competitive rates.

Today, most of the service providers offer a big bouquet of service packages and tariff plans. These have been designed keeping in mind the different segments of cellular users, their service requirements, and usage patterns. Voice communication is the basic service common to all users. Other Value-Added-Services such as SMS, MMS, Internet, and data services have been added keeping in mind different personal and business requirements. The service providers assess these customer needs regularly through market research. They also collaborate with other service vendors who want to market new mobile services, such as games, information services and commercial applications.

- **Attributes related to service support** – The service quality attributes related to service support where the service providers are performing well are the aspects related to customer interfacing (SQ20) and the maintenance of accurate data records (SQ24). Customer interfacing skills are given special focus during recruitment and training of service support staff. Additionally, the service providers today, spend huge resources on developing IT applications and installing databases to facilitate the working of the front-line support staff and to maintain accurate records of the transactions with their customers.
- **Attribute related to brand image and professional outlook** – With this attribute in this quadrant, it is clear that the cellular service users lay emphasis on corporate and brand image of their service providers (SQ1). The service providers today spend a large portion of their budget and resources to build their brand image, using a variety of service promotion mix to achieve this. High brand value is essential to raise the customer delivered value, and the service providers need to focus on this aspect, to achieve higher customer retention.

To summarise, the essence of the 'High importance, High performance,' quadrant is the fact that the service providers need to maintain and strive for better performance in the attributes highlighted. In-addition, in conjunction with these strengths they need to improve the similar areas of weakness that appeared in 'High importance, Low performance' area. Such an improvement will ensure that the overall service experience of their customers is enhanced. With these improvements, the service providers can expect higher customer satisfaction, loyalty and profitability.

Quadrant III: Low Importance, High Performance (Realign strategy)

This quadrant lists the service quality attributes, which are perceived as low importance, but their performance score is high. Two service quality attributes have transpired in this quadrant, SQ7, and SQ10: –

Quadrant III – Service Quality Attributes: Description (Performance Mean, Importance Mean)

- **SQ 7:** Ease of locating a dealer/retailer (5.50, 5.94)
- **SQ10:** Convenience of getting subscription/termination/change in subscription (5.11, 5.89)

Both service attributes, SQ7 and SQ10, are associated with service intermediaries i.e. the dealers/retailers. Ease of locating dealer/retailer (SQ7) is directly linked with them. Since most of the initial procedure for the pre-activities of subscription/termination/upgrade of cellular services takes place at their end, SQ10 can also be considered as part of them.

- **Attributes related to service intermediaries** – It is evident that the service providers have a well-established network of dealer/retailer/outlets making it easy for service users to reach them (SQ7). They have also established efficient processes for handling subscription/termination/change in subscription. (SQ10). One of the possible reasons due to which a cellular subscriber perceive these attributes as less important, could be because these attributes are ubiquitous i.e. they are being offered and practiced by almost all the service providers. Moreover, the perception of low importance, of these attributes is relative to other service quality attributes that appeared in quadrant I and II, thus they cannot be ignored.

Since the perceived performance of these attributes is high, the service providers need to realign their strategy for them. They need to ensure that they will not only continue to perform well on these attributes but also use the right promotion mix to highlight their high performance with respect to these dimensions and raise the awareness of the customers regarding the importance of the same.

Quadrant IV: Low Importance, Low Performance (Realign Strategy)

In this quadrant, two service quality attributes related to service intermediaries have appeared. SQ8 deals with the knowledge of the dealers/retailers/outlets about the products and services. And SQ9 refers to the customer handling skills, of the sales staff at these outlets.

Quadrant IV – Service Quality Attributes: Description (Performance Mean, Importance Mean)

- **SQ8:** Dealers/Retailers provide complete information on tariff plans, products and services (4.94, 5.25)
 - **SQ9:** Promptness, courteousness of the salesperson at the dealer/retailer (4.89, 5.20)
-
- **Attributes related to service intermediaries** – The low performance of the service quality attributes, SQ8 and SQ9 indicates that the service providers need to improve both, the knowledge and customer handling skills of their dealers/retailers and more training and support needs to be provided to them. The low importance of SQ8 and SQ9 can be explained by the fact that today, cellular service users do not rely only on dealers to provide them the information but get it from other sources. Also, as proposed in the 'Hygiene theory' (Herzberg, Mausner & Snyderman, 1959), even though the presence of low importance attributes may not act as motivator but their absence, may lead to low customer satisfaction.

6.6 Perception Gap Analysis (Service Providers, Customers)

The perception gap that exists between the customers and the service providers was analysed to comprehend the components of effective retention strategies. As part of the customer survey, the respondents were asked to provide their perception about the performance of their service providers based on each of the 26 service quality attributes and also, to rate the

importance they associate with each one of them. Similarly, the nine service operators participating in this study were also asked to rate the same attributes, with their perception about their own performance, and the importance they relate with them. Using the above data, mean scores were calculated for each of the service quality attributes and aggregated on the basis of the six service quality factors. This was done in order to give a comprehensive view to analysis. The performance gap between the service providers and the customers was examined based on the difference of their mean scores, for each of the six service quality factor. Similarly, the importance gap was investigated on the basis of the difference in the rank of importance. The following part of the section elaborates the findings of this analysis.

- **Performance Perception Gap (Service Provider, Customer) – Table 6-11**, highlights the mean performance score of both the service providers and the customers, on the basis of six service quality factors.

Table 6-11 Performance Gap (Service Provider, Customer)

Factor	Service Providers' Perceived (Performance Avg.) (A)	Customers' Perceived (Performance Avg.) (B)	Gap (A-B)
Network Service	6.00	5.09	0.91
Service Bundling and Pricing	6.11	5.25	0.86
Service Promotion and Communication	5.75	4.96	0.79
Service Support	5.50	5.01	0.49
Service Outlets and Delivery	5.25	5.11	0.14
Service Billing and Payment	5.01	4.88	0.13

The 'Gap' column, of the table, indicates the difference between the perceived performance score of the service providers and the customers. This column was computed by subtracting the mean score of each service quality factor of the service providers to that of the customers. It is evident from these scores that that the service providers' perception about their own performance of all the service quality factors is higher than that perceived by their customers. This gap indicates two possible scenarios. Either the respondent service providers have overestimated their

performance, or, otherwise, the performance is really higher, but the respondent customers have underestimated it. In both the scenarios, the service providers need take corrective measures with respect to their product or communication.

The gap in the perception of the customers and the service providers is highest in the 'Network Service' factor, followed by 'Service Bundling and Pricing', 'Service Promotion and Communication', and 'Service Support'. However, in case of 'Service Outlet and Delivery' and 'Service Billing and Payment' factors it is quite small. In the previous sections (section 6.3, 6.4), through empirical analysis, it was established that 'Network Service' is the most influencing factor for customer satisfaction and switching intention of the cellular customers. Also, the factors 'Service Outlet & Delivery' and 'Service Billing & Payment' are not contributors to them. The result of the performance gap analysis also substantiates this fact.

In general, it is important for the service providers to be aware of how exactly their customers perceive their services. The objective of the customer retention strategies of the service providers should be to perform higher than their customer's expectation. For this, the service providers not only need to constantly monitor and evaluate their own performance but also compare it with their customers' perception. Identifying and bridging this gap will help them realign their focus on areas of service improvement, and make their retention efforts more productive and successful.

- **Importance Perception Gap (Service Provider, Customer)**

Similar to the performance gap, the importance perception gap between the service providers and the customers was also analysed. In this case the disparity in the ranking of the importance of the six service quality factors was investigated. Table 6-12, highlights the ranking for the six service quality factors as perceived by the service providers and the customers.

Table 6-12 Importance Gap (Service Provider, Customer)

Factor	Service Providers (Perceived Importance Avg.)	Rank (Service providers)	Customers (Perceived Importance Avg.)	Rank (Customers)	Rank Score Gap
Network Service	6.75	I	6.13	I	No
Service Bundling and Pricing	6.70	II	6.12	II	No
Service Support	6.45	III	6.07	III	No
Service Promotion and Communication	6.25	IV	5.9	V	Yes
Service Outlets	5.94	V	5.7	VI	Yes
Service Billing and Payment	5.75	VI	6.0	IV	Yes

Based on the mean importance scores of six service quality factors, these factors were ranked individually for both, the respondent service providers and the respondent customers. The 'Rank Score Gap' column (Table 6-12) highlights that the order of importance of the service providers and the customer differs. Though the ranking order of the first three factors is the same namely, 'Network Service', 'Service Bundling and Pricing', and 'Service Support', the rest of the order does not match. The service providers have given least importance to 'Service Billing and Payment', the customers however, perceive it's as the fourth highest. The customers have given lower importance to 'Service Promotion and Communication' and 'Service Outlet' contrary to the service provider perception. The importance perception gap indicates that the service providers need to lay more emphasis on 'Service Billing and Payment' factor as compared to 'Service Promotion and Communication' and 'Service Outlet'.

To sum-up, the 'Perceptual gap analysis' indicates that there is a gap in perception of performance and importance on various aspects of service between service providers and the customers. While framing customer retention strategies the service providers need to consider these gaps. This analysis provides them guidelines for the areas of service improvement and service strategy re alignment.

6.7 Summary

This chapter describes the results of the empirical analysis and hypotheses testing, conducted in line with the study model prepared for this research.

Exploratory Factor Analysis (EFA) was conducted on the 26 cellular service quality attributes, using principal component method with varimax rotation. It resulted in six factor solution viz., 'Service Promotion and Communication', 'Service Support', 'Network Service', 'Service Pricing and Bundling', 'Service Billing and Payment' and 'Service Outlet'. These six factors represent various areas of service interface, which are experienced by a post-paid cellular service user. In order to enhance the service quality experience, service providers need to focus on these areas of service improvement.

Further, testing of the three hypotheses concluded that the causality involving overall service quality, customer satisfaction, and behaviour intention in terms of intention to switch or intention to recommend is also applicable to the Indian cellular service industry. Therefore, higher service quality will lead to higher customer satisfaction, which will lead to lower intention to switch and higher intention to recommend. This theme needs to be the mantra for the service providers while designing their customer retention strategies. The results of the hypotheses testing are in accordance with the previous studies done by other researchers in various service industries including cellular services (Gerpott, Rams & Schindler 2001; Lee, Lee, Feick, 2001; Wang, 2002).

Analysis between the service quality factors and customer satisfaction showed that all the six factors have influence over customer satisfaction. Similarly, analysis between service quality factors and intention to switch illustrated that four out of the six service quality factors, 'Network Service', 'Service Support', 'Service Pricing and Bundling', and 'Service Promotion and Communication' are the determinants of switching behaviour, with 'Network Service' being the most influential one. Since 'Network Service', emerged as

the most significant factor for customer satisfaction and switching intention, the service providers need to ensure that its performance exceed customers' expectation at all times.

A four-quadrant 'Importance-Performance matrix', was constructed to obtain a better understanding about respondents' evaluation of the importance and performance of each of the twenty-six service quality attributes. Out of these eleven attributes were identified in the 'High Importance, Low Performance' quadrant, thus identifying areas of immediate service improvement. Similarly, eleven other attributes appeared in the 'High Performance, High Importance' quadrant, representing the areas of service providers' strength, in concordance with high importance given by their customers. The remaining four service quality attributes, related to service intermediaries appeared in the remaining two quadrants 'Low Performance, Low Importance' and 'High Performance, Low Importance'. For these attributes, the service providers need to realign and rework their strategies.

The perceptual gap between the respondent service providers and the respondent customers showed variation for both importance and performance of cellular service being delivered. This indicates that the service providers need to constantly monitor and measure the perception of their customers and compare it to their own, in order to prioritise their service improvement efforts.

The results of this chapter help to identify the essential constituents of the customer retention strategies, and provide a clear roadmap for the service providers, by identifying the areas of customers' concern and service improvement.

CHAPTER 7 – CONCLUSIONS AND RECOMMENDATIONS

7.1 Summary of Results and Conclusions

7.2 Implications and Recommendations

7.3 Areas for Future Research

Chapter 7 – Conclusions and Recommendations

Today, customer retention is considered as a better litmus test of company's profitability than customer acquisition. Its adoption leads to higher revenue, lower cost of acquisition, superior service quality, elevated customer satisfaction and greater customer lifetime value (Farquhar, 2004; Bowen & Lawler, 1990; Schlesinger & Heskett, 1991). There is a growing importance of customer retention globally, and Indian cellular service industry is no exception. This study aims at investigating the prevailing customer retention strategies in the Indian cellular service industry and suggests how they can be improved to promote higher level of customer loyalty.

In the last decade, the landscape of Indian cellular service industry has undergone a tremendous change. From 1 million subscribers in 1999, it has grown to almost 60-fold today. While the industry has seen explosive growth, it has also been battling with high customer churn rate. IDC India has reported a high customer churn rate of 8-10 per cent (Voice & Data, 2005). This has happened because the Indian cellular service users today, have more choices available to them. They are not hesitant to switchover for better price, value, service quality, and satisfaction at the first opportunity.

Since inception of the industry, the service providers' strategic focus has been on increasing their market share. Customer retention was paid little or no attention because of the huge demand for cellular telephony. Over time, increasing competition, saturating markets in urban areas, decreasing ARPU, new entrants to the markets, competitive pricing of CDMA operators and rising expectation of the customers have forced the service providers to realign their attention towards customer retention and adopt it as a key corporate strategy.

Little is known about the switching behaviour of the Indian cellular service users and the retention practices of their service providers. With this objective, a research approach was formulated and a study model was constructed,

based on the gap found during the review of the existing literature. The essence of this approach and model conceived was twofold. Both the service providers' perspective and customers' point of view were reviewed to understand the subject in a holistic manner. Based on this methodology, a research instrument was developed for each one of them.

For cellular users, a self-administered, structured and non-disguised questionnaire was developed, with dual considerations. Firstly to investigate the prevalent customer's switching behaviour and secondly to examine their perception about the cellular service being delivered to them.

Service quality and customer satisfaction have traditionally been regarded as the fundamental determinants of long-term customer behaviour (Oliver, 1980). The higher the quality of service delivered, higher would be the customer satisfaction, greater would be their loyalty and higher will be their propensity to recommend (Fornell, 1992). Researchers such as Kim et al. (2004a), Wang (2002), and Gerpott et al. (2001) established this relationship in different cellular service markets. Based on this premise, the customer instrument was designed to investigate if causal relationship of service quality, customer satisfaction, switching intention and intention to recommend can also be applied to the Indian cellular industry. To test it empirically, three hypotheses were framed.

A list of 26 service quality attributes specific to the cellular industry was developed. The perception of the customers and the service providers was evaluated by means of these attributes, based on their perceived importance and performance.

For the service providers, a semi-structured interview-based questionnaire was designed. The focus of this instrument was, to draw a better understanding of their perception about customer's switching behaviour and practices adopted by them for customer retention. Their own perceived performance and importance was also measured using the same 26 cellular service quality attributes, which were used in the customer survey.

To conduct the customer survey, a sample of 2,500 post-paid individual customers was drawn using systematic random sampling process, from a combined list of 87,500 customers. The nine service providers, who participated in this study, provided this list. The primary data collection activity for this study started in July 2004 and was completed in December 2004. Service providers' data was collected by conducting personal interviews with their senior-level managers, who are directly responsible for customer retention function. The customers' questionnaires were administered through mail. Out of 2,500 questionnaires sent, a total of 615 responses were received and 545 of them were found to be valid for data analysis. The respondent customers belonged to New Delhi (including NCR) Punjab and Haryana. They represented various dimensions of the Indian cellular Industry, along with a variety of demographic characteristics.

This chapter summarizes the findings of this study, under three sections. First section, 'Summary of Results' encapsulates important inferences of the study. The second section, 'Implication' based on these conclusions, draws suggestions for the service providers to improve their current customer retention practices. It also proposes how the policy makers can regulate the cellular service quality effectively. The final section, 'Areas for Future Research' describes the limitations of the study and proposes themes for future studies on this subject.

7.1 Summary of Results and Conclusions

The results of this research have been reached by combining the inferences drawn from the data analysis of both respondent customers and their service providers. These have been elaborated in the following paragraphs.

7.1.1 Growth in the Industry

The customer data analysis, showed very high cellular users growth rate especially in the period 2001-2005. This finding is line with the industry trend described in the TRAI's study paper (TRAI, 2005a). Factors such as, limited

reach of fixed-line telephony, availability of affordable handsets, lower cellular call tariffs, introduction of CDMA as cheaper alternative, and initiatives by government and TRAI, have acted as key growth drivers of cellular growth in India. In addition, other important factors such as availability of nationwide roaming, multilingual Value-Added-Services and new cellular applications have also contributed to the explosive growth.

Based on the perception of the respondent service providers, it can be said that the existing growth drivers will continue to stimulate further expansion of market share. As the growth has saturated in the upper segments of socio-economic classification (SEC-A and SEC-B), the service providers are now focusing on the untapped lower segments of markets, especially semi-urban, rural areas and lower income group in urban area (SEC-C and SEC-D).

7.1.2 Churn and Loyalty behaviour

The churn and loyalty analysis of the respondent customers and the information gathered from the service provider helped in understanding the switching behaviour of the Indian cellular service user and also provided valuable inputs for identifying areas of service improvement.

- **Churn Indicators** – According to the respondent service providers the industry has witnessed a rising churn rate in the last five years. Their current estimates of the average monthly churn rate in the industry, ranges between 3 to 5 per cent for the post-paid subscribers. Overall, these monthly figures are quite high, and lead to significant revenue leakage. The past switching behaviour analysis of the respondent customers revealed that around 25 per cent of them had switched to their current operators. A drill down churn time period analysis also showed that, the churn rate has been on the surge, since the year 2001. Interestingly, this period of churn increase is similar to the growth period of Indian cellular subscribers. This means that the growth drivers during this period not only created new cellular subscribers, but also induced switching behaviour among existing users.

The propensity of the respondent customer to switch in the future indicated that 16.3 per cent of them are considering switching. This substantiates the fact that the service providers need to take a long-term view of churn management and its prevention.

- **Reasons for Churn** – Both, the respondent service providers and customers associated the attrition behaviour to factors such as, poor network quality, availability of cheaper tariff plans, billing inaccuracies, poor quality of CDMA handsets, and inefficient customer care. Also the non-availability of Value-Added-Services and switching incentives offered by competitors added to this cause. Poor network quality and availability of cheaper tariff plan emerged as the most significant triggers for churn.
- **Voluntary/Involuntary Churn** – Churn in the industry exists in both forms, voluntary as well as involuntary. In case of voluntary churn the customer informs the service provider before leaving, whereas in case of involuntary the customer switches without informing. To handle both forms of churn, the service providers have devised specific process work-flows, with an objective to retain the defectors and to minimize the financial impact of churn.

An important dimension that emerged from churn analysis is the fact that the involuntary churn constitutes 60-70% of the total churn. Moreover, the cross-tab analysis (between type of churn vs. follow-up action by the service provider) clearly indicated that the churn management systems currently implemented by the service providers have a large scope for improvement in terms of their effectiveness and defection turnaround success rate.

- **Loyalty Behaviour** – Analysis of the fidelity behaviour of the respondent customers pointed out that 28 per cent of the non-switchers actually feel hostage to their current service provider, because of the non-availability of number portability. It is obvious that once number portability is

implemented in India, there is a high probability that such customers will switch. Hence, it can be ascertained that the service providers must maintain a high degree of customer satisfaction, quality, customer value and service differential in order to retain their customers. In addition to this they also need to implement new switching barriers, to dissuade their customers from defecting.

- **Retention Focus** – Churn cannot be totally eliminated. However, it needs to be minimized and an effective mechanism needs to be implemented to ensure that profitable customers are retained. The 'Did change vs. Will change analysis' and 'Loyalty vs. Satisfaction matrix' analysis indicated that the service providers should segment their customer base to clearly identify the loyalist and potential switchers. Customer such as 'Did change and Will change'/'Mercenary'/'Terrorist', need to be identified and eliminated. Such a segmentation approach will help the service providers to maximize their retention efforts.

The learning from the churn and loyalty behaviour analysis designates that customer churn is prevalent in the Indian cellular service industry and will continue to be an important area demanding utmost attention of the service providers. The rise in the churn figures also point to the fact that the existing retention practices lacked strategic focus and the churn management measures built by the respondent service providers are inadequate.

7.1.3 Current Retention Practices

The customer retention practices assimilated from the respondent service providers were classified into four broad categories namely – *Churn Prediction, Business Process Improvement, Infrastructure Improvement and Building Switching Barriers*. For each of these categories listed below, areas of improvement have been identified on the basis of empirical analysis of the subscriber's data.

- The *Churn prediction* category, constituted three types of measures – churn analysis, early detection of fraudulent cases, and identification of

vagabond customers. Among these measures, the detection of fraudulent cases was found to be the most extensively measure. Based on the churn and loyalty behaviour analysis, two areas of enhancement were identified. First, the focus of churn prediction measure should be to classify the potential switchers by their profitability. Second, there is a need to improve the churn prediction process by employing rigorous statistical and data modelling techniques, and superior data mining software. Such methods will help the service providers to accurately predict the switching propensity of the customers.

- The *Business process improvement* category indicated that the main emphasis of the respondent service providers is on strengthening the service intermediaries (dealers/retailers), improving service support, billing process, key accounts management and in the case of CDMA, improving the quality of handsets. The implementation of customer profiling and proper handling of new customers is also widely practiced. To further improve the productivity and efficiency of the business processes, some of the respondent service providers, have employed quality assurance practices such as TQM (Total Quality Management) programmes.

The result of the switching behaviour analysis seems to indicate that the business process improvement practices adopted by the respondent service providers have worked well. However, there are areas that require improvement. Based on the impediments identified by respondent service providers, it can be ascertained that the service providers must shift their strategic focus from a reactive approach to a proactive approach to churn management. High service culture orientation among all the departments within the organization should be propagated. Moreover, all the business processes within the organization must synchronize their efforts, so as to minimize the bottlenecks in the process of efficient service delivery.

Four business process improvement areas were identified, based on service users' response, which will help the service providers to build better relationship with them. First, the service provider should proactively

suggest, appropriate tariff plans to their customers based on their usage pattern. Second, the service providers need to increase the awareness, frequency, and scope of customer feedback surveys. Third, loyalty programme schemes should be implemented rigorously in order to reward the customers for their high service usage, allegiance and recommendation. Fourth, the service providers should make effective use of the information available in the current customer database to create a closer proximity with their customers.

- As part of *Infrastructure improvement* category, the respondent service providers highlighted two prominent measures – strengthening the network capabilities, and improving IT and other support systems. In addition to these, some of the service providers have also initiated customer data cleansing and updation activity, since the information stored in the customer database is inaccurate or incomplete.

Both, the respondent customers and the service providers indicated that the poor network service is the prime reason for defection. The potential switchers also, revealed that this factor would continue to be the most dominant factor for their defection. The results of the hypothesis testing and other results of empirical analysis also substantiated this fact. Therefore, the service providers need to focus significantly on network improvement.

Another area of improvement discovered in this category relates to the lack of flexibility in the existing customer care and billing software applications being used by the respondent service providers. These applications do not allow the implementation of complex tariff plans, cross-product value-addition offers, convergent services and multifaceted discount/allowances. They also lack user alerts based on customer information and their transactions. The absence of these features currently restricts the marketing department to implement good switching barriers, and create value-addition in the services being offered.

- In the category of *Building switching barriers*, the respondent service providers indicated four specific measures. All the respondent service providers are practicing competitive pricing. An overwhelming majority of the respondent service providers are using brand building, and mass customisation and personalization of service approach as ways to create switching barriers. A few of the respondent service providers indicated that they have implemented loyalty programmes. In light of the results of the empirical analysis of this study, it is evident that the current switching barriers implemented by the respondent service providers are not sufficient and effective. The service providers need to constantly innovate and be creative in implementing switching barriers, to dissuade their customer from defection.

7.1.4 Ingredients for Effective Customer Retention Strategy

This section summarizes the results of the service quality attributes analysis. The conclusions of this analysis provide essential constituents that need to be included in an effective customer retention strategy.

- **Derived Cellular Service Quality Factors** – Based on the Exploratory Factor Analysis, six service quality factors emerged out of 26 service quality attributes rated by the respondent customers. The Reliability, KMO test and Bartlett's test of sphericity confirmed that this six factor solution was statistically significant.

The six factors were named based on the characteristic of the service quality attributes they represented. Thus, they were identified as 'Service promotion and communication', 'Service support', 'Network Service', 'Service outlet', 'Service billing and payment', and 'Service bundling and pricing'. These factors represent the various aspects of post-paid service and embody the components of 7 P's of marketing. They also denote the touch points or the points of service encounter, through which the customer experiences cellular service. Therefore, the key to improve the perception of service quality, and hence, customer satisfaction will be to enhance delivery of service at all these points of service interface.

- **Relationship between Service Quality, Customer Satisfaction, and Behaviour Intentions** – The established principles that, higher service quality leads to higher satisfaction, and higher satisfaction leads to lower intention to switch and higher intention to recommend, were tested using three different hypotheses. The results of the Regression, Correlation, and Gamma test carried out for hypotheses testing, statistically established these relationships to be true in the context of the Indian cellular service industry. These results are in accordance with the previous studies conducted in this area, which established that the customer's behavioural intentions show strong evidence of their being influenced by service quality and customer satisfaction (Zeithaml et al. 1996; Zahorik and Rust 1992; Boulding, Kalra, Staelin & Zeithaml, 1993). These results are also in line with that of other researchers who reached similar conclusions in their studies of specific cellular market (Gerpott et al., 2001; Lee et al. 2001; Wang, 2002).

The established relationships, give a very strong direction and roadmap to the cellular service providers for building effective customer retention strategies. Constant delivery of high service quality and superior customer satisfaction should be the essential components of such a strategy. Relentless efforts to raise the perception of service quality, will lead to enhanced customer satisfaction. Consequently, satisfied subscribers will have a lower switching intention. These customers will not only be loyal to their providers but, would also recommend them to others.

- **Factors which Influence Customer Satisfaction and Intention to Switch** – Regression Analysis between the service quality factors and customer satisfaction established that all the six factors influence customer satisfaction. Among these, 'Network Service' was found to be the most influential factor. Similarly, analysis between service quality factors and intention to switch was performed using Canonical Discriminant analysis. This test established that four service quality factors, including, 'Network Service', 'Service Pricing and Bundling', 'Service Promotion and

Communication', and 'Service Support' are the determinants of customer switching behaviour. As in the case of customer satisfaction, the service quality factor of 'Network Service' was found to be the leading influential factor on the customer's switching intention. The prominence of this factor, which primarily deals with cellular network service, establishes the fact that the service providers need to concentrate on improving this dimension as the most important constituent of customer retention strategy. Other researchers such as Woo and Fock (1999), Leisen and Vance (2001), Wang (2002), Kim and Yoon (2004) also reached a similar deduction.

- **Re-examine the Areas of Service Improvement** – The Importance–Performance analysis (IPA) revealed that the service providers should assign priorities to the areas of service improvement based on the perceived Importance/Performance by the respondent customer on different aspects of cellular service. This analysis revealed that there are specific areas of immediate concern, and areas where the perception of the customers need to be changed or needs to be reinforced.

Out of 26 service quality attributes, eleven attribute were identified in the 'Low Performance, High Importance' quadrant, signifying high priority service improvement areas. Two of these attributes, network availability and range of coverage relate to 'Network Service' quality factor. Four of them, namely, ease of getting through to customer care, getting promised service, service support team shows interest in solving queries/problems, and knowledge of the support staff, belong to 'Service Support' quality factor. The rest of the five attributes – attractive promotion schemes as compared to competitors, keeping the customer well informed about new schemes, sharing complete and true information with customers, corporate image, and advertisements helping in purchase decision, relate to the area of 'Service Promotion and Communication'.

Four service quality attributes, related to 'Service Outlet' appeared in the two quadrants 'Low-Performance, Low-Importance' and 'High-

Performance, Low-Importance'. For these attributes, the service providers need to realign and rework their strategy to change the perception of their customers regarding these dimensions. The rest of the 26 service quality attributes appearing in the 'High- Importance, High-Performance' quadrant of IPA represented the areas of service providers' strengths. The service providers' in these areas should continue to strive for better performance, as their perceived importance by the respondent customers was high.

- **Monitoring the Perceptual Gap between Service Providers and Service Users** – The perceptual gap between the respondent service providers and customers showed variation for both importance and performance of cellular service being delivered. This indicates that the service providers need to constantly monitor and measure the perception of the customers, in order to identify the right areas of improvement. While designing the customer retention strategies, the service providers need to take into consideration the gap that exist between their own perceived Importance/Performance of different aspects of service delivery and that of their customers. One of the key principles of the retention strategy formulation process should be how to minimise this gap. This can be only possible if the service providers constantly monitor and measure this gap. Such an analysis would provide a road map for enhancing customer service experience by identifying the priorities of service improvement.

7.2 Implications and Recommendations

The findings of this study ascertain the fact that the Indian cellular service industry is experiencing fast growth, high churn rate, and mounting significance of customer retention. Currently, most of the service providers have adopted a price-focused approach as the main switching barrier. Such an approach, does not ensure effective customer retention, and only serves to further commoditize, and shrink profit margins. Instead, they need to focus on building a customer service environment that delivers superior service quality and high customer satisfaction. This way, the service providers can

encourage loyalty and foster long-term profitable relationship with their customers. The service providers, who take a lead in implementing such a strategy, will be able to create the much required service experience differential and competitive advantage.

Beside the conclusions of this study, there are four other factors which emphasise the importance of getting the right customer retention strategies at the earliest. *First* is the implementation of mobile number portability (MNP). Currently changing a cellular number is a major inconvenience and a barrier preventing customers from exercising their choice among operators (TRAI, 2005c). As a result, the customers are unable to take full advantage of the introduction of new services and technologies and the growing competition among operators. MNP thus, is a priority for TRAI to implement in India (TRAI, 2005c). With this switching barrier being removed, the customer churn rate is bound to increase further as experienced across other cellular markets (Gerpott et al., 2001; Kim, Park and Jeong 2004b). Therefore, the Indian cellular service providers have a little time in augmenting their current retention efforts.

Second, the tariffs will continue to fall, as a result of further deregulations, new competition, convergence of technologies, availability of cheaper alternative of current technologies, and implementation of uniform STD charges across all the telecommunication circles in India (IndianOne Service²⁷). In light of this, the service providers need to keep pace with these environmental and technological dynamics and provide the right mix of product innovation and superior service quality to their customers, to retain them. *Third*, for the next level of cellular subscriber growth, the service providers need to concentrate on semi-urban and rural interiors of India. Currently there is scanty cellular coverage in rural areas (TRAI, 2005a). For increasing rural teledensity, TRAI and the government are trying to create a competitive rural telecom market. However, the private service providers are still reluctant to move in these areas, since they may not be very profitable. Until service providers take a

²⁷ The Ministry of Communication, Govt. of India is in the process of implementing 'IndiaOne' tariff plan whereby calling across the nation will be at a uniform tariff.

strategic decision to plunge into the rural telephony market, it is of utmost importance that they should hold on and retain what they have today. Therefore, high customer retention will continue to be the key for their profitability. Investment in customer retention will bear more fruits than spending on acquisition. *Fourth*, many global foreign operators, and business groups are eying the Indian cellular service market. They are roaring to bring in better and cheaper technologies. Big players like Vodafone have already shown keen interest in entering into the Indian market. The entrance of such globally established operators would sway away, dissatisfied customers from current service providers. Needless to say, that these new entrants will adopt every possible strategy to lure even the satisfied customers from their competitors. The existing Indian service providers thus need to be on their guard to avoid such situation.

Keeping in view the above-mentioned upcoming challenges for the Indian cellular service industry and the results of this study, it can be concluded that the Indian service providers need to improve their current customer retention strategies. The following part of this section delineates suggestions for the service providers and the policy makers based on the inferences drawn from this study. A model for measuring and monitoring cellular service quality has also been proposed.

7.2.1 Suggestions for Service Providers

The results of this study confirm that the customer retention is a significant driver for the profitability of the Indian cellular service providers. Even though the service providers have implemented a retention framework, not all the measures are delivering the desired results. This section presents recommendations to help the service providers, in designing a holistic multi-pronged strategic approach, based on the findings of this study.

- **Orientation of the Customer Retention Strategy** – The underlying principle of customer retention strategy must be to deliver high service quality and superior customer satisfaction, at all points of service

interaction. Satisfied customers show lesser intention to churn, increase the profitability through cross-sell/up-sell, and also talk positively about the organization. The customer retention framework needs to have the right mix of a wide variety of customer retention measures. Besides introduction of new products and services, and implementation of new technologies, adequate weightage should be given to service improvement, churn management, and managing relationship with their customers.

The customer constantly assesses the service provider, at every service encounter and thus, all elements of cellular service need to be considered while designing the customer retention strategies. Areas of poor service delivery and dissatisfaction need to be identified at the earliest and plugged. Service providers need to have a good understanding of the customers' perception of their performance. They should then, identify the areas of service improvement based on this assessment. They need to develop mechanisms to constantly scrutinize customers' feedback, and align their strategies accordingly.

Another area, where the retention strategies need to concentrate, is to create greater degree of bond and relationship with the customers. As suggested by Berry and Parasuraman (1991), the service providers need to implement it at four levels. These include financial, social, customisation, and structural bonds. Creating effective relationship with the customers will lead to long-term affinity and scope for higher profitability.

A superior customer value proposition can act as a good switching barrier, even in a price sensitive market like India. Like any other service industry, the cellular users are also value-maximizers. They buy service from the providers who are perceived to provide the highest customer delivered value. This means that the service providers, as part of their retention strategy must constantly assess this value and then, effectively communicate it to their customers.

India has a diverse landscape and so are its cellular users. Service providers operating in different parts of the country need to have a common broad customer retention framework. However, the measures under this framework need to be localized and regionalized keeping in mind the different geographical needs, behaviour, expectations, usage pattern, level of maturity, service requirements, switching behaviour and issues of dissatisfaction.

Finally, customer retention cannot be successfully implemented till it does not become the philosophy and culture of the organization. Thus, the senior management needs to take onus and responsibility for this. Since replacing lost customers comes at an elevated cost, parameters such as low customer defection and high retention rate should be key performance evaluation criteria for senior managers. They should also be fundamental components of their incentive programmes.

- **Develop a better understanding of Customer Expectations –** Customers are the driving force for every service provider. Meeting their expectations is not an option, but essential for attaining competitive success. The more effective a service provider is in understanding and meeting customer needs, superior will be the service delivery as per customers' expectation. Adopting such an approach will lead to higher customer satisfaction, lower defection, and would act as a catalyst for positive behavioural intentions, higher market share and revenue.

With the changing landscape of the Indian industry the customer expectations are also changing. Different groups of customers have different needs, wants and expectations. For example, the younger generation looks forward to new technologies, Value-Added-Services, fast connectivity and entertainment. The corporate customers on the other hand desire seamless connectivity, divergent business applications, and utilities to increase their productivity and efficiency. The common user, constituting the majority of the Indian cellular population is concerned with getting good communication connectivity, to make and receive calls.

Therefore, the service providers should adopt appropriate mechanism to understand these diverse expectations, and then, adequately plan the priorities of their retention measures.

- **Pursue a Path of Constant Innovation** – India is one of the world's most potential cellular markets. For the Indian cellular service providers it is both, promising and challenging. With at least 6 operators in each circle, the market is extremely competitive. The customer is demanding, and is willing to churn easily. To add fuel to fire, cellular ARPU is dropping every quarter (TRAI, 2005a). Thus, in order to survive and prosper, the cellular service providers need to constantly innovate themselves as forward-thinking organizations.

The process of innovation should be focused on new products, improving service delivery, pricing and promotion. It should also focus on finding new ways to deliver higher customer value and excellence in every customer service interaction. The focus of the innovation should be to build a customer service environment that will engender loyalty, better customer relationship and profitable customer retention.

Today, the cell phone is being used in multiple roles, viz. communicator, personal organizer, email and chatting device, music player, address book manager, camera, and video recorder. In its role, it has replaced multiple devices, making the service users addicted to it. With its convergence with Internet, service users are never away from home or office.

Newer applications are being developed to harness the potential of cell phones. Recently, in Europe and US some of the service providers gave a new avatar to them, in which these phones can actually be used as an electronic wallet. Thus, the payment between customers and retailers can be made directly using cellular phones, without using credit cards or cash. Similarly in parts of Africa, Vodafone has launched schemes in which the airtime available on the cellular phone can be exchanged with goods or cash.

The Indian service providers also need to constantly identify such pioneering applications that will further integrate day-to-day lives of their service users, by increased productivity, efficiency, and easy access to information and entertainment. Application such as these will surely help them to generate profits, create closer relationship with customers, and in effect, create newer switching barriers. To increase the application usage they should implement them in multilingual options. Further, the Indian service providers also need to quickly adapt new technologies such as 3G networks. These services will open avenues for new business and personal applications such as navigation, video conferencing, viewing television, music/movie downloads and playbacks.

Service providers need to also extend the scope of innovation, to improve the internal processes within their own organization. They need to revamp their business processes, and optimise them for higher efficiency and productivity. New technologies and higher degree of automation is required to build competence and effectiveness to deliver high quality service. With the decreasing ARPU and increasing competition, the service providers need to focus on process reengineering to be able to optimise cost and overhead of operations.

To summarise, the critical success factor to attract and retain profitable customers, in a dynamic cellular service industry like India, will be to pursue a path of constant innovation.

- **Implement an Enterprise-wide CRM strategy** – With so much economic power in customer's hands, profitability hinges on company's ability to both, gather and then leverage from this knowledge about their customers. Strategies such as Customer Relationship Management (CRM) help the companies to do so. CRM is an integrated approach, combination of people, processes and technology that results into a customer-focused enterprise that maintains strong relationship throughout the customer life-cycle. Companies that successfully implement CRM, reap the rewards in customer loyalty and long-term profitability.

IT-based CRM systems have been applied in many industry sectors, and research on advancing these systems is continuing. Leading telecom solution providers, such as Amdocs are advocating a concept of Integrated Customer Management (ICM), with emphasis on establishing a system wherein a complete 360⁰ view of the customer can be assimilated. Implementation of a full fledged, enterprise-wide CRM strategy would give the service providers, timely and critical information about their customers. Adopting such an approach ensures that the service providers' efforts of retention are integrated and optimised, giving them an opportunity to understand, create and foster closer relationship with their customers. Using CRM, the service providers would be able to tap every customer interaction as an opportunity to win loyalty

An effective CRM strategy will require the service providers' to adopt a cohesive CRM methodology and a powerful technological infrastructure. Moreover, any CRM solution in consideration, should address the issues of robustness, flexibility and scalability based on the current requirement and future needs.

- **Adopt Better Churn Prediction Models/Techniques** – Managing churn can be defined as the process of finding potential customers who have an intention to switchover, and then preventing them from doing so. As identified during the course of this study, the churn prediction models currently adopted by the service providers are inadequate and do not help the service providers to forecast customer churn accurately.

Neslin et al. (2004), using cellular organization as a case study, researched how to improve predictive accuracy of customer churn models. They concluded that the service providers should constantly lookout for better forecasting models and techniques. They further emphasised, the need of advanced data mining techniques and use of specialised statistical packages to predict churn accurately. Researches such as Bucknix & Poel (2003) and Larivière & Poel (2005) have also advocated the use of advanced statistical methods such as, Logistic Regression, Artificial

Neural Networks and Random Forest techniques to develop comprehensive churn forecasting models.

Another subject of improvement that the service providers can adopt in this area is to employ additional customer parameters, such as their demography, usage pattern, switching behaviour, satisfaction level, service preference, and customer complaints in their churn prediction tools. This should be supplemented with information collected from the feedback from the customer exit interviews, and competitors' data. Use of such data will help the service providers to increase the predictive accuracy of the employed churn models.

- **Guarantee Core Service Delivery** – The heart of the retention strategy needs to be excellence in core service delivery i.e. high quality of communication capability. Poor performance on account of Network Service is the gateway to customer dissatisfaction, and thus, customer defection. Seamless availability of network, better call quality, large coverage range, extensive roaming capability, and superior performance of Value-Added-Services are critical for customer satisfaction and loyalty. However, the effective core service delivery requires constant monitoring and maintenance of network elements and the related infrastructure. With the increasing demand in network service quality, enhancing and upgrading the infrastructure on regular intervals becomes essential for service providers.
- **Retention focus based on Customer Lifetime Value** – Payne and Frow (1997), suggested that retention strategies need to be based on the understanding of the relative profitability of different segments. This means that the retention management measures should be aimed at specific segments, which are presently or potentially profitable. Right retention is rooted in knowing which customers are most valuable, and why. Accurate assessment of customer lifetime can help the service providers to achieve this. Based on this value, an effective segmentation of their customer base

can be created. Such an approach will ensure that the retention actions are focused on the customers with the highest lifetime value rather than wasting retention efforts on vagabond and mercenary customers.

- **Convergent Bundling of Services** – Most of the cellular service operators, now also have other portfolio of communication platforms, such as fixed-line, broadband, and Virtual Private Network (VPN). A good switching barrier is to combine all such services into a common package and offer them as one umbrella solutions. Today, both individuals and corporate users avail multiple communication technologies. Availability of bundled offers of multiple services will ensure that the customers now need not run for different services to different vendors. The combined portfolio of services thereby, will facilitate single window for service support, upgrades, technical solutions and complaint handling. The service providers should also offer features such as combined bill, and single payment clearance process flow. The service provider can further innovate, these offers by giving cross-product discounts and freebies. These kinds of offers will create superior service differential, bigger wallet share and higher customer allegiance.
- **Give Multi-Connection Discount Offers** – Another way to create a good switching barrier is by giving multi-connection discount offers and convergence of prepaid and post-paid service. Currently, even though the Indian prepaid market share is 60-70 per cent, fewer services are offered to them as compared to post-paid users. From the customer point of view, the only difference between prepaid or post-paid is when they pay for the service, in-advance or after use of service. If a convergence between the two services is available to the customers, then it will provide them a lot of flexibility to plan their usage and control their expenses.

Today, many households and businesses have multiple-connection and diverse cellular consumption requirements. Availability of multiple-connections packages, bundled with discount offers will lure the customers

to purchase additional connections. With such offers, the customers will have the flexibility to choose a combination of prepaid and post-paid services, as per their necessity. Offering a one-stop solution to diverse customer requirements, along with convergent services and a single payment option, will not only encourage new subscriptions but would act as a strong switching barrier.

- **Enhance the Service Support** – The service providers need to enhance the service support, by giving their staff adequate training and orientation towards effective customer support service. Using them as a strategic resource will create the much needed competition differentiator and closer proximity to the customer. The service providers need to raise the skill-set of their current service staff so as to be able to deliver an efficient, consistent, quality customer experience. While the service providers need to focus on building service culture within the organization, they should also explore new service support channels. Automatic self-service, voice interactive and web-based mechanisms to provide support should be implemented. Such user-friendly systems will ensure 24X7 service support to customers and remove the strain from the call helpline support.
- **Enhancing the Service Recovery Mechanism and Complaint Monitoring** – As discovered during the course of this study, the involuntary churn in the industry is quite high. One of the possible reasons of this is because of the inability of the service providers to address issues and concerns of their service users. To handle this, the service providers need to build effective service recovery mechanisms and complaint monitoring systems. Service recovery reflects the reliability dimension of service delivery. It includes systematic efforts by the organization to correct a problem that occurred due to a service failure. Service providers need to realize that service recovery plays a crucial role in achieving customer satisfaction. It is a true test of their commitment to customer satisfaction and service quality. Effective service recovery requires procedures and systems that will help in recovering from service failures,

resolving problems related to business, and handling disgruntled customers. Building effective service recovery mechanisms will help in problem solving and reinstating customer confidence.

A dedicated complaint monitoring team needs to analyse the complaints received from the customers in order to resolve them amicably. Service providers need to establish benchmarks for the time taken for complaint resolution and also develop system for recording customer's feedback regarding complaint resolution. The objective of the complaint monitoring team should be to improve these targets all the time. They also need to go one step further by classifying the complaints on the basis of frequency and type of complaints. These complaints should be also mapped to the service users' profiles. Categorizing the complaints would help the service providers to draw a better understanding of their pattern and trends. Based on such drill down analysis, the service providers will quickly identify the areas of major concern and devise measures to handle them. Moreover, complaint categorization on the basis of customer's profile would help the service providers to address issues from higher profitability customers on a priority basis.

7.2.2 Framework for Measuring and Monitoring Cellular Service Quality

In today's competitive world, the only meaningful strategies are those, which place highest priorities on building relationship with existing customers. To earn customer satisfaction and loyalty, the service providers need to build mechanisms to monitor and control the quality of service delivered at all points of service encounter. Service encounter is the 'moment of truth', that occurs any time the customer interacts with the service provider and the service is produced and consumed. Zemke and Albrecht (1995) suggested that service quality excellence could be achieved only by treating each contact as a 'moment of truth'. Each such moment is potentially critical in determining customer satisfaction and loyalty. These encounters could be personal or non-personal. Every such encounter depicts opportunity to build

trust, reinforce quality, build brand identity and increase loyalty. Figure 7-1 illustrates the life-cycle of post-paid cellular service, using the six service quality factors, derived during this study. Based on these factors a framework for measuring and monitoring service quality has been conceptualised.

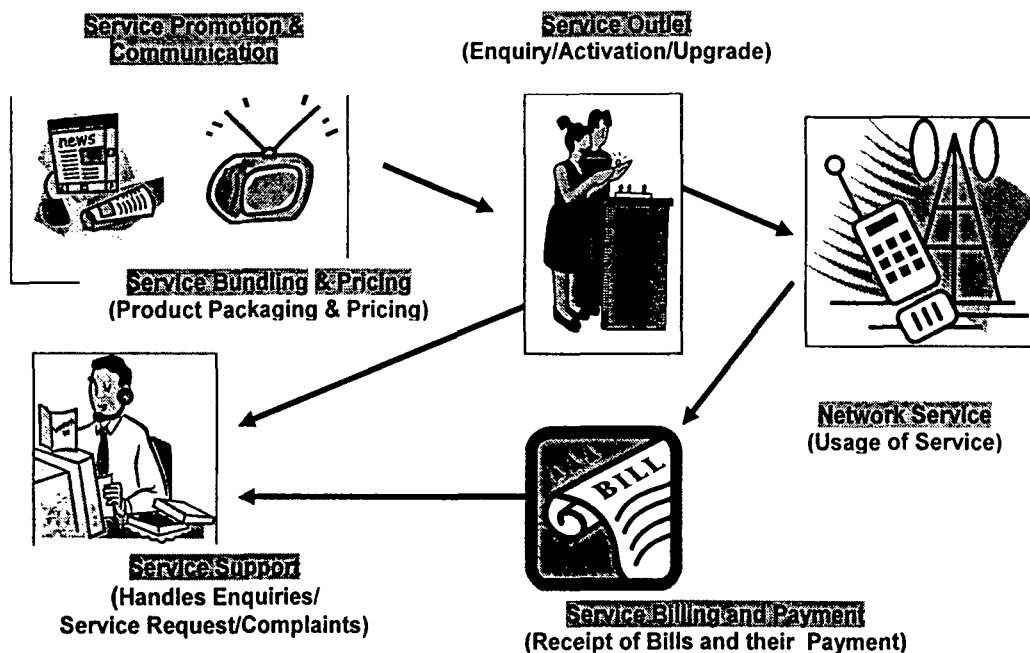


Fig. 7-1 Framework for Measuring and Monitoring Cellular Service Quality

The six factors encompass the essence of the post-paid cellular service usage and various points of service encounters. These touch points are the points of service interface, through which the service user accumulates perception about the quality of service being delivered. Initially, the service provider packages new products and services and prices them appropriately (*Service Bundling and Pricing*). The customer comes to know about them through advertisement and promotion campaigns (*Service Promotion and Communication*). New subscriptions/upgrades are then, done by the dealers/retailers (*Service Outlet*). Once enrolled, the customer now starts to use the communication and VAS services (*Network Service*), and finally, at the end of the month, the customer receives a bill, and needs to pay for it (*Service Billing and Payment*). To buoy up this cycle, the service providers give continuous support for cellular service through their customer care and support staff (*Service Support*).

As evident, the six service quality factors together cover nearly all the aspects of post-paid cellular service usage. In order to maintain a high customer satisfaction and loyalty, the service providers need to monitor and measure the perception of service quality on these factors and its attributes. The six factors give an aggregative view of the service being delivered and the 26 service quality attributes present a drill down view on individual components involved. As technologies evolve and new services are added, the cellular quality attributes could be modified and the framework could be refined. The service quality could be measured based on the following guidelines: –

- **Stage 1:** Define service quality assurance standards
- **Stage 2:** Measure customer's perception of service quality
- **Stage 3:** Define service quality assurance standards
- **Stage 4:** Measure own perception of service quality
- **Stage 5:** Analyse the gap between, own perception and customer's perception with respect of the service assurance standards benchmarked

As suggested in the above guideline, the service providers should first define their own service quality assurance standards, based on their own assessment and inputs from the industry. This should be followed by measurement of customers' perception and organizations' perception for the service quality being delivered. These results should be then analysed and benchmarked against the service quality assurance standards defined.

Adopting above approach will not only help the service providers to identify the priority areas of service improvement, but also assist them to constantly refine and upgrade their service assurance standards. The input of this analysis will also help them to constantly realign their retention strategies to maximize customer satisfaction, loyalty and profitability.

Service delivery failure against the expectation of the service user is potential source of dissatisfaction and hence defection. To avoid this, the service providers need to proactively identify service failures at all the possible points of service encounter. Achieving service excellence and delighting the customer at the touch points would help the service providers to achieve a long-term relationship and profitability. Using the suggested approach, the

service providers can build a performance monitoring mechanism and enhance it regularly. This framework will also facilitate early-warning systems for getting alerts about customer dissatisfaction and thereby enhancing churn management capability of the service providers.

7.2.3 Suggestions for Policy Makers

The policies for cellular service in India are devised through multiple government agencies. These include, Department of Telecommunication, Ministry of Communication, and the Telecom Regulatory Authority of India. These agencies also need to play an active role in propagating high service quality standards and ensuring their enforcement. Keeping in view the interest of the customers and the industry, the following paragraphs list suggestions for the policy makers to implement, which will encourage the development of a better cellular service environment.

- **Enhancing the Quality of Service (QoS) guidelines** – The Telecom regulatory authority of India requires all the service providers to file Quality of Service (QoS) report on quarterly basis. This helps TRAI to monitor the quality of service delivered to the cellular users. The cellular QoS parameters have been divided in four categories (TRAI, 2005d): –
 - A) **Fault incidence & Repair** – Fault incidence (Number of faults/100 subscribers/month); Faults cleared within 24 hours; Accumulated down time of Community Isolation.
 - B) **Network Performance** – Call Success Rate; Service Access Delay; Call Drop Rate; Percentage of connections with good voice quality.
 - C) **Billing Complaints** – Billing complaints per 100 bills issued; Percentage of billing complaints resolved within 4 weeks; Period of all refunds/payments due to the customers.
 - D) **Customer Satisfaction Survey** – A customer satisfaction survey is also to be conducted by an independent agency, to assess the perception of the service users as per the benchmarks for QoS parameters laid down by TRAI.

As evident, the current list of QoS parameters does not cover all aspects of service experience by the service user. It should be enhanced to cover other cellular quality attributes, such as performance of Value-Added-Services, service support functions, service bundling and pricing, performance of self-service modules. The QoS parameters should be enhanced with the evolution of cellular service. The list of QoS attributes should be exhaustive to cover all touch points where the service users' interact with the service provider. Developing such a list will ensure that all the important dimensions of cellular service, influencing customer satisfaction are covered.

- **Enforcing the Publication of Churn figures** – Currently churn figures, are not publicly available. Moreover, the definition of churn is not uniform across the industry. In order to have a transparency into the performance of the service providers, the presentation of churn figures (along with break-up of voluntary and involuntary) should be included in the QoS report. These published figures would help the cellular users to have additional information about the performance of the service providers. Publication of churn figures would also compel the service providers to adopt competitive customer retention strategies. With this, service quality standards would improve and the customers at large will benefit. Additionally, availability of such figures would also help the academicians/researchers to investigate issues related to churn and its management.
- **Developing Indian Cellular Service Customer Satisfaction Index** – Like the American and European Customer Satisfaction Index, an Indian cellular service satisfaction index should be developed, monitored and results should be published. This index should be administered under the aegis of TRAI and should cover all the aspects of cellular service usage. Such an index will help to benchmark the cellular standards available and what should be delivered. Development of customer satisfaction index will induce competition and would make the service providers more

accountable for the service quality being delivered. Satisfaction index such as this will act as a benchmark across the industry and help to reach higher levels of service. This index will also help to compare cellular service standards, among different operators nationally. Comparing these standards with other international service benchmarks will help to make the Indian cellular service, a world-class service.

- **Changes in the National Telecom Policy** – The existing National Telecom Policy was revised and implemented in 1999. It brought about many positive changes in the industry, and helped cellular telephony to flourish. However, with the competitive and technological changes in the market, it needs to be amended. Appropriate policy decisions need to be made in the National Telecom Policy, to facilitate the service providers to orient themselves to the changing needs of the customers and serve them better.

The overall theme of the new National Telecom Policy needs to be customer centric. There is need to fix accountability of service providers to deliver high service quality. Moreover, the new policy also needs to resolve issues for example, implementation of mobile number portability, publication of cellular telephone directory, and STD/ISD carrier choice flexibility to the customers. The new telecom policy also needs to address some of the outstanding demands of the service providers, such as increased allocation of network frequency spectrum, allowing higher foreign direct investment, settlement of inter-connect charge issues between the service providers, defining norms for mergers and acquisition, allowing greater profit margins in rural telephony, and further deregulation of the industry.

To summarize, the new National Telecom Policy should take into consideration a futuristic view of the industry that account for both the customers' interest and service providers' needs. This way the right environment for facilitating industry growth would be created and the service standards in the industry would improve.

7.3 Areas for Future Research

In the Indian context, little research has been done in the area of service quality perception (Jain & Garima, 2004), and this observation is also true for Indian cellular service industry. The distinctive aspects of this empirical study re-confirm many of the service quality principles established across other service industries and cellular service industry in particular. Even though the study has been done in the background of Indian market, the methodology and the findings are applicable broadly across any other cellular market.

Most of the research studies available on similar subjects have primarily focused on studying the switching behaviour of the customers and interrelationship with service quality, only from the customers' perspective (Woo & Fock, 1999; Kim & Yoon, 2004; Aydin & Ozer, 2005). During this study, both, the user of service and the provider of service were examined. This two-fold methodology adopted by the study suggests a new generic approach to deal with similar research issues. Adopting such an approach provided a comprehensive and holistic dimension to the research.

Further, the 26 service quality attributes developed during this study, initiate a process whereby, a service quality measurement model specifically focusing on post-paid cellular service industry can be standardized. The study also, established the applicability of service quality delivery into the dimension of effective customer retention strategies.

This study has some limitations. These limitations and suggested areas for future research are elaborated in the following paragraphs.

- **Extension of Scope of Service Quality Attributes** – While preparing the list of service quality attributes, certain aspects of the cellular service usage could not be included, such as cellular handsets, data services, and self-service modules of the service providers. With the changing technologies, existing services are being upgraded and new services are being introduced. As part of future research, the list of 26 service quality

attributes used in this study can be modified, to include other important attributes. Such a process will help to refine the proposed cellular service quality measurement model.

- **Non-Coverage of Prepaid Market Segment** – In this study, the prepaid service users were not covered. In India, 60-70 per cent of cellular service users are still using prepaid service. It is an important area of unexplored research. More so, because the rate of churn in the prepaid segment is of a higher proportion as compared to post-paid segment, making customer retention more significant. In-addition, the loyal and satisfied prepaid customers are potential post-paid users that the service providers can possibly enrol.

Most of the service encounters experienced by the post-paid and prepaid customers are the same. However there is a difference in certain aspects of service usage such as payment method, and limited availability of cellular services. Considering these variations, the service quality measurement model used in this study can be refined to cover prepaid service.

- **Breadth of the Sample** – The sample of this study consisted of respondents from the northern part of India. Using the approach of this study, customer surveys could be conducted from other geographical parts of India or other global cellular markets. This will help to further refine the cellular service quality framework, derived in this study. Such a study will also assist the service providers to design effective strategies keeping regional/local issues in mind. The other customer segment that could not be covered in this study was the 'Corporate' customers. Their satisfaction and service delivery components differ from individual customers. This segment generates considerable revenue, however, their perception of the service quality and their switching behaviour still remains unexplored.

- **Financial Impact of Churn and Loyalty** – This study did not cover the financial consequences of churn and loyalty. Research analysis into the revenue leakage impact of churn, benefits of loyalty Customer Life Time Value (CLTV) of the cellular service users and cost involved in different customer retention measures could be undertaken. Such a cost/benefit analysis study would help to understand the financial impact of retention. Researchers such as Reichheld (1996) have explored this area various service sectors in the west and a study in the Indian context would benefit the industry.
- **Study of the Employees' Perception of Service Quality** – The employees of the service organization are the gateway to deliver high service quality to the customers. Thus, it is important, to measure the gap between the employees' perception about the delivered service quality and organization's service quality specification. This perceptual gap will help to understand what an organization stipulates and what is delivered to the customers. The GAPS model also advocates such a gap analysis (Parasuraman, Zeithaml & Berry, 1988). Farquhar (2004), have explored this area in the financial service sector, and concluded that measuring the employees' perception of service quality is essential to improve the quality of service. Thus, a similar study in cellular service industry would help the service providers to bridge gaps between their service standards and service delivery.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Anderson Eugene W., & Sullivan Mary W. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing Science*, 12 (2), Spring, 125-142.
- Anderson, Carl, & Zeithaml V. A, Carl, P. (1984). Stage of the product life cycle, business strategy, and business performance. *Academy of Management Journal*, 2, March, 5-24.
- Anderson, E., Fornell, C., & Lehman, D. (1994). Customer satisfaction, market share, and profitability: Findings from Sweden. *Journal of Marketing*, 58, July, 53-66.
- Anderson, Eugene W. (1998). Customer satisfaction and word of mouth. *Journal of Service Research*, 1 (1), 5-17.
- Anderson, Eugene W., & Mittal, Vikas. (2000). Strengthening the satisfaction-profit chain. *Journal of Service Research*, 3 (2), November, 107-120.
- Athanassopoulos A., Gounaris S. & Stathakopoulos V. (2001). Behavioural responses to customer satisfaction: an empirical study. *European Journal of Marketing*, 35 (5), June, 687-707.
- Augustyn, Marcjanna M., & Seakhoa-King Arthur. (2004). Is the SERVQUAL scale an adequate measure of quality in leisure, tourism and hospitality? *Advances in Hospitality and Leisure*, 1, 3-24.
- Aydin Serkan, & Gokhan Ozer (2005). The analysis of antecedents of customer loyalty in the Turkish mobile telecommunication market. *European Journal of Marketing*, 39 (7), 910-925.
- Babakus, E., & Boller, G. W. (1992). An empirical assessment of the SERVQUAL scale. *Journal of Business Research*, 24, 253-268.
- Bell, Chip R., & Zemke R. (1992). *Managing Knock Your Socks off Service*. New York: AMACOM.
- Berné, Carmen, Múgica, José M., & M. Jesús Yagüe. (2001). The effect of variety-seeking on customer retention in services. *Journal of Retailing and Consumer Services*, 8 (6), November, 335-345.
- Berry, L. L., & Parsuraman, A. (1991). *Three levels of relationship Marketing. Marketing Services — Competing through quality*, 136-142. New York: Free Press
- Berry, L. L., & Parsuraman, A. (1997). Multiple method listening: The building of a service quality information system. *Sloan Management Review*, Spring, 65-76.
- Bhattacharya, C. B. (1998). When customers are members: customer retention in paid membership contexts. *Journal of the Academy of Marketing Science*, 26 (1), 31- 44.
- Bitner, M. J. (1990). Evaluating service encounters: The effects of physical surroundings and employee responses. *Journal of Marketing*, 54, April, 69-82.
- Blubaugh, Ingrid Bakalorz., & Balaji, Sam. (2000). *Surveying the wireless landscape*. Cambridge, UK: Cambridge University Press.
- Bolton, R. N., & Drew, J. H. (1991a). A longitudinal analysis of the impact of service changes on customer attitudes. *Journal of Marketing*, 55, 1-9.
- Bolton, R. N., & Drew, J. H. (1991b). A multistage model of customers' assessments of service quality and value. *Journal of Consumer Research*, 17, 375-384.

- Boulding, W., Kalra, A., Staelin, R., & Zeithaml, V. A. (1993). A dynamic process model of service quality: From expectation to behavioural intentions. *Journal of Marketing Research*, 30, February, 7-27.
- Bowen, E., & Lawler, E. (1990). The empowerment of service workers: What, why, how and when. *Sloan Management Review*, 33 (3), 31-39.
- Brady, Michael K., Cronin, Jr. J. Joseph, & Brand Richard R. (2002). Performance-only measurement of service quality: A replication and extension. *Journal of Business Research*, 55 (1), 17-31.
- Brown, T. J., Churchill, G. A. Jr., & Peter, J. P. (1993). Improving the measurement of service quality. *Journal of Retailing*, 69 (1), 127-139.
- Bruhn, M., & Grund, M. A. (2000). Theory, development and implementation of national customer satisfaction indices: the Swiss Index of Customer Satisfaction (SWICS). *Total Quality Management*, 11 (7), 1017- 1028.
- Buchanan, R., & Gilles, C. S. (1990). Value managed relationships: The key to customer retention and profitability. *European Management Journal*, 8 (4), 523-526.
- Bucknix W., & Poel Van Den. (2003). Customer Base Analysis: Partial Defection of Behaviourally-Loyal Clients in a Non-Contractual FMCG Retail Setting, Working Papers of Faculty of Economics and Business Administration, Ghent University, Belgium 03/178. Retrieved July 2004, from <http://ideas.repec.org/p/rug/rugwps/03-178.html>.
- Buzzelle, R. D., & Gale, B. T. (1987). *The PIMS principles*. New York: Free Press.
- Carman, J. M. (1990). Consumer perception of service quality: An assessment of the SERVQUAL dimensions. *Journal of Retailing*, 65, Spring, 33-55.
- CellularNews. (2003). Retrieved Jan 2005 from <http://india-cellular.com/News-July-Sept-2003.html>
- Chorelywood (2001). Chorleywood Industry Report – Customer retention and churn management: Maximizing profit through customer retention. Informa Telecoms Group
- Churchill, G. A. Jr., & Suprenant, C. (1982). An investigation into the determinants of customer satisfaction. *Journal of Marketing Research*, 19, 491-540.
- Colgate, M. R., & Danaher, P. J. (2000). Implementing a customer relationship strategy: The asymmetric impact of poor versus excellent execution. *Journal of the Academy of Marketing Science*, 28 (3), 375-387.
- Comfrey, A. L., & Lee, H. B. (1992). *A First Course in Factor Analysis*, 217. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Crompton, J. L., & Duray, N. A. (1985). An investigation of the relative efficacy of four alternative approaches to importance-performance analysis. *Journal of the Academy of Marketing Science*, 13 (4), 69-80.
- Cronin, Joseph, J. Jr., & Taylor, Steven A. (1992). Measuring service quality: A re-examination and extension. *Journal of Marketing*, 56, July, 55-68.
- Cronin, Joseph, J. Jr., & Taylor, S. A. (1994). SERVPERF versus SERVQUAL: Reconciling performance-based perceptions minus expectations measurement of service quality. *Journal of Marketing*, 60, April, 31-46.

- Crosby, L. A., & Stephens, N. (1987). Effects of relationship marketing on satisfaction, retention, and prices in the life insurance industry. *Journal of Marketing Research*, 24, November, 404-411.
- Crosby, P. B. (1979). *Quality is free*. New York: McGraw-Hill.
- Desatnick, R. L. (1988). *Managing to Keep Customer*. Houghton Mifflin, MA, Boston.
- Dutka, A. (1993). *AMA Handbook for Customer Satisfaction*. Chicago: NTC Publishing.
- EconomicTimes*. (2005). 30% mobile users always disloyal. Retrieved Mar 2005, from <http://economictimes.indiatimes.com/articleshow/msid-1053150,prtpage-1.cms>.
- Economist*. (2005). Calling across divide. Retrieved Mar 2005 from http://www.economist.com/displaystory.cfm?story_id=S%27%29%280%2FRA%3B%21%20P%210%0A
- ExpressComputer. (2003). Churn management solutions key to telco bottom lines. Retrieved Nov 2004, from <http://www.express-computer.com/20030922/indiatrends01.shtml>
- Farber, B., Wycoff, J. (1991). Customer service: evolution and revolution. *Sales and Marketing Management*, 44-51.
- Farquhar, J. (2004). Customer retention in retail financial services: An employee perspective. *The International Journal of Bank Marketing*, 22 (2), 86-99.
- File, Karen Maru, & Prince Russ Alan (1994). Predicting Professional Service Retention, *Journal of Professional Services Marketing*, 11 (1), 5-20.
- Fiona, Chau. (2004). *Telecom Asia*, 12 (40), 4.
- Fornell, C. (1992). A national customer satisfaction barometer: The Swedish experience. *Journal of Marketing Research*, 56, 6-21.
- Ganesh, J., Arnold, M. J., & Reynolds, K. E. (2000). Understanding the Customer Base of Service Providers: An examination of the differences between switchers and stayers. *Journal of Marketing*, 64 (3), 65-87.
- Gerpott, Torsten J., Rams Wolfgang & Schindler Andreas. (2001). Customer retention, loyalty, and satisfaction in the German mobile cellular telecommunications market. *Telecommunications Policy*, 25 (4), May, 249-269.
- Gitomer, Jeffery. (1998). *Customer satisfaction is worthless: Customer loyalty is priceless; how to make customers love you, keep them coming back and tell everyone they know*. Austin, TX: Brad Press.
- Grapentine, Terry. (1997). The history and future of service quality assessment: Connecting customer needs and expectations to business processes. Retrieved Feb 2005, from <http://www.grapentine.com/articles/sqa-all.pdf>
- Grönroos, Christian. (1978). A Service Oriented Approach to Marketing of Services, *European Journal of Marketing*, 12 (8), 588-601.
- Grönroos, Christian. (1980). An applied service marketing theory. Working paper 57, Swedish School of Economics and Business Administration, Helsinki.
- Grönroos, Christian. (1982). Strategic management and marketing in the service sector. Research report 8, Swedish School of Economics and Business Administration, Helsinki.

- Grönroos, Christian. (1984). A service quality model and its marketing implications. *European Journal of Marketing*, 18, 36-44.
- Hair, J.E., Anderson R. E., Tatham R. L., & Black, W. C. (1994). *Multivariate data analysis with readings*, 4th edn. New York: Macmillan.
- Hallowell, R. (1996). The relationships of customer satisfaction, customer loyalty, and profitability: an empirical study. *International Journal of Service Industry Management*, 7, 27-42.
- Herzberg, F., Mausner, B., & Snyderman, B. B. (1959). *The motivation to work* (2nd ed.). New York: John Wiley & Sons.
- Hold, Eddie. (2004). The confusion conspiracy: Wireless carriers should specialize in profit, not perplexity. Retrieved Feb 2004, from http://www.findarticles.com/p/articles/mi_m0DUJ/is_2_108/ai_n6082746
- Hwang, H., Jung, T. & Suh, E. (2004). An LTV model and customer segmentation based on customer value: a case study on the wireless telecommunication industry. *Expert Systems with Applications*, 26 (2), 181-188.
- Informa UK. (2001). Measuring and monitoring customer churn. *Retention and Churn Management Annual 2001*, 3.1.
- ITU (1999). Key global telecom indicators for world telecommunication service sector. Retrieved Feb 2004, from www.itu.int/ITU-D/ict/statistics/at_glance/keyTELECOM99.html
- Jain, Sanjay K., & Garima Gupta (2004). Measuring service quality: SERVQUAL vs. SERVPERF scales. *Vikalpa*, 29 (2), 25-37.
- Johnson, William C., Sirikit, Anuchit. (2002). Service quality in the Thai telecommunication industry: A tool for achieving sustainable competitive advantage. *Management Decision*, 40 (7), 693-701.
- Jones, M. A., Mothersbaugh, D. L., & Beatty, S. E. (2000). Switching Barriers and Repurchase Intentions in Services. *Journal of Retailing*, 76 (2), 259-74.
- Jones M. A., Mothersbaugh, D. L., & Beatty S. E. (2002). Why customers stay: measuring the underlying dimensions of services switching costs and managing their differential strategic outcomes. *Journal of Business Research*, 55 (6), 441-450.
- Jones, Thomas O., & Sasser, W. Earl Jr. (1995). Why satisfied customers defect. *Harvard Business Review*, 73 (6), July-August, 88-99.
- Kandampully, Jay (1998). Service quality to service loyalty: A relationship which goes beyond customer satisfaction. *Total Quality Management*, 9 (6), 431-443.
- Keaveney, Susan. (1995). Customer switching behavior in service industries: An exploratory study. *Journal of Marketing*, 59, April, 71-82.
- Keiningham, T. L., & Vavra, T. G. (2001). The customer delight principle: Exceeding customers' expectations for bottom-line success. Chicago: McGraw-Hill.
- Kelley, Scott W., Hoffman K. Douglas & Mark A. Davis. (1993). A typology of retail failures and recoveries. *Journal of Retailing*, 69, Winter, 429-452.
- Kim Hee-Su, & Yoon Choong-Han. (2004). Determinants of subscriber churn and customer loyalty in the Korean mobile telephony market. *Telecommunications Policy*, 28 (9-10), October-November, 751-765.

- Kim Moon-Koo, Park Myeong-Cheol, & Jeong Dong-Heon. (2004a). The effects of customer satisfaction and switching barrier on customer loyalty in Korean mobile telecommunication services. *Telecommunication Policy*, 28, 145-159.
- Kim Moon-Koo, Park Myeong-Cheol, & Jeong Dong-Heon. (2004b). An Empirical Study on the Influencing Factors of Customer Churning Intention after Introducing Mobile Number Portability in Korea. Electronics and Telecommunications Research Institute (ETRI). Retrieved May 2004, from http://userpage.fuberlin.de/~jmueller/its/conf/berlin04/Papers/Kim_Park_Paik_Seol_Park.pdf
- Kotler, Philip. (2001). *Marketing Management*, Millennium edn., Prentice-Hall 47-49.
- Lacobucci, D., Grayson, K., & Ostrom, A. (1994). Customer satisfaction fables. *Sloan Management Review*, Summer, 93-96.
- Larivière, B., & Poel, D. Van Den. (2005). Predicting customer retention and profitability by using random forest and regression forests techniques. *Expert Systems with Applications*, 29 (2), 472-484.
- Lee, Haksik., Lee, Yongki & Yoo, Dongkeun (2000). The determinants of perceived service quality and its relationship with satisfaction. *Journal of Services Marketing*, 14 (3), 217-231.
- Lee, Jonathan., Lee, Janghyuk & Lawrence Feick (2001). The impact of switching costs on the customer satisfaction-loyalty link: Mobile phone service in France. *Journal of Services Marketing*, 15 (1), 35-48.
- Leisen, Birgit & Vance Charles. (2001). Cross-national assessment of service quality in the telecommunication industry: evidence from the USA and Germany *Managing Service Quality*, 11 (5), 307-317.
- Lewis, B. R., & Bingham, G. H. (1991). The youth market for financial services. *International Journal of Bank Marketing*, 9 (2), 3-11.
- Lovelock, Christopher H., & Wirtz, Jochen. (2004). *Services marketing*, fifth edn. NJ: Pearson Education.
- Lovelock, Christopher, H. (1983). Classifying services to gain strategic marketing insights. *Journal of Marketing*, 47, Summer, 9-20.
- Martilla J. A. & James J. C. (1977). Importance performance analysis: An easily applied technique for measuring attribute importance and performance can further the development of effective marketing programs. *Journal of Marketing*, 4 (1), 77-79.
- McAlexander, James H., Kaldenburg, Dennis O., & Koenig, Harold F. (1994). Service Quality Measurement. *Journal of Health Care Marketing*, 14 (3), 34-40.
- McKinsey. (2001). New era of customer loyalty management – Opportunities to create profitable growth. Retrieved June 2002, from http://www.mckinsey.com/practices/marketing/ourknowledge/pdf/Solutions_Customer_Loyalty.pdf
- McNeal, J. U. (1999). *The kids market: Myths and realities*. Paramount Market Publishing, Ithaca, New York.
- Mehta, Subhash C., Lalwani Ashok & Han, SL. (2000). Service quality in retailing: relative efficiency of alternative measurement scales for different product-service environments. *International Journal of Retail & Distribution Management*, 28 (2), 62-72.

- Mittal, Banwari & Lassar Walfried M.. (1998). Why Do Customers Switch? The Dynamics of Satisfaction Versus Loyalty. *The Journal of Services Marketing*, 12 (3), 177-194.
- Monts, Ken, Bonevac Beverly, Lauer Joseph, & Tessema, Dagnatchew. (1997). Measuring the value of customer retention. *The Electricity Journal*, 10 (4), 73-80.
- Neslin S., Gupta Sunil, Kamakura W., Lu J., & Mason C. (2004). Defection detection: Improving predictive accuracy of customer churn models. Retrieved June 2004 from <http://mba.tuck.dartmouth.edu/pages/faculty/scott.neslin/Defection%20Detection%20Paper.pdf>
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 42, 460-467.
- Oliver, R. L. (1993). *A conceptual model of service quality and service satisfaction: Compatible goals, different concepts*. Greenwich, CT: JAL Press.
- Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64 (1), 12-40.
- Parasuraman, A., Berry L. L., & Zeithaml, V. A. (1991). Refinement and reassessment of SERVQUAL scale. *Journal of Retailing*, 67 (4), 420-450.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1984). *A conceptual model of service quality and its implications for future research*. Cambridge, MA: Marketing Science Institute.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49, Fall, 41-50.
- Peters, Tom. (1988). *Thriving on chaos*, New York: Alfred A. Knopf.
- Payne, A., & Flow, P. (1997). Relationship Marketing: Key Issues for the Utilities Sector. *Journal of Marketing Management*, 13 (5), 463-477.
- Pine II, Joseph, B., Peppers, Don, & Rogers, Martha. (1995). Do you want to keep your customers forever? *Harvard Business Review*, 73, 103-114.
- Poel, Van Den D., & Larivière, B. (2004). Customer Attrition Analysis for Financial Services Using Proportional Hazard Models. *European Journal of Operational Research*, 157 (1), 196- 217.
- Ramachandran, T. V. S. (2004). Presentation made by the chairman of COAI in Singapore. Retrieved Feb 2005, from <http://www.coai.com/>
- Ramakrishnan, K. (2005). Customer retention: The key to business performance. Retrieved Jan 2005 from <http://www.etstrategicmarketing.com/smNov-Dec2/art11.html>
- Reichheld, Frederick F. (1994). Loyalty and the renaissance of marketing. *Marketing Management*, 2 (4), 10-21.
- Reichheld, Frederick F. (1996). *The Loyalty Effect: The Hidden Force Behind Growth, Profits, and Lasting Value*. Boston: Harvard Business School Press.
- Reichheld, Frederick F., & Kenny, D. (1990). The hidden advantages of customer retention. *Journal of Retail Banking*, 12 (4), 19-23.
- Reichheld, Frederick F., & Sasser, W. E. Jr. (1990). Zero defections: Quality comes to services. *Harvard Business Review*, September–October, 105-111.

- Reidenbach, R. E., & Sandifer-Smallwood B. (1990). Exploring perceptions of hospital operations by a modified SERVQUAL approach, *Journal of Health Care Marketing*, 10, 47-55.
- Richins, M. (1983). Negative word-of mouth by dissatisfied consumers: A pilot study. *Journal of Marketing*, 47, Winter, 68-78.
- Rust, R. T., & Zahorik, Anthony J. (1993). Customer satisfaction, customer retention, and market share. *Journal of Retailing*, 69, Summer, 193-215.
- SAS. (2004). Customer Retention for Telecommunications. Retrieved Dec 2004, from <http://www.sas.com/industry/telco/retention/brochure.pdf>
- Scaglione, F. (1988). Two-way communication: Tapping into gripes and profits. *Management Review*, 77, September, 51-53.
- Schlesinger, L., & Heskett, J. (1991). The service-driven service company. *Harvard Business Review*, 69 (5), 71-81.
- Schuessler, K. F. (1971). *Analyzing social data: A statistical orientation*. Boston: Houghton Mifflin.
- Sewell, Carl, & Brown, Paul B. (1990). *Customer for life: How to turn that onetime buyer into a lifetime customer*. New York: Pocket Books.
- Sheth, J. N. (1971). Word-of-mouth in low-risk innovations. *Journal of Advertising Research*, 11, 15-18.
- Shoemaker, Stowe & Lewis, Robert C. (1999). Customer loyalty: the future of hospitality marketing. *International Journal of Hospitality Management*, 18 (4), December, 345-370.
- Singh, J. (1988). Consumer complaint intentions and behaviour: Definitional and taxonomical issues. *Journal of Marketing*, 52, January, 93-117.
- Spreng, R. A., & Mackoy, O. O. (1996). An empirical examination of a model of perceived service quality and satisfaction. *Journal of Retailing*, 72 (2), 201-214.
- Stewart, Mark. (1996). *Keep the right customers – Five key steps to profitable customer retention*. Biblio Distribution.
- Teas, R. K. (1993). Expectations, performance evaluation and consumers' perception of quality. *Journal of Marketing*, 57 (10), 18-34.
- TimesofIndia* (2005). Reliance Info to pull plug on 9.3L users. Retrieved April 2005 from <http://www.timesofindia.indiatimes.com/articleshow/msid-1070832>
- TRAI. (2005a). Indicators for telecom growth. Study Paper No. 2/2005. Retrieved Apr 2005, from <http://www.trai.gov.in/ir530June.pdf>
- TRAI. (2005b). Growth in telephony continues in April 2005, subscriber base exceeds 100 million. Press release No. 42/2005. Retrieved Apr 2005, from <http://www.trai.gov.in/pr9may05.pdf>
- TRAI. (2005c). Consultation paper on mobile number portability. Retrieved Jul 2005, from <http://www.trai.gov.in/conpaper22july05.pdf>
- TRAI. (2005d). Regulation on quality of service of basic and cellular mobile telephony services. Retrieved Jul 2005 from <http://www.trai.gov.in/regu1jul05.pdf>

- Voice & Data*. (2003). Mobile users satisfaction survey. *Voice & Data*, 11 (6), 24-39.
- Voice & Data*. (2005). Triple play: Growth, expansion, and profit. *Voice & Data*, 12 (1), July, 38-48.
- Wang, Yonggui. (2002). Service quality, customer satisfaction and behaviour intentions: Evidence from China's telecommunication industry. Retrieved from <http://www.emeraldinsight.com/1463-6697.htm> on Jan 2004
- Weinstein, Art & Johnson, William C. (1999). *Designing and delivering superior customer value: Concepts, cases, and applications*. Boca Raton: CRC Press.
- Westbrook. (1987). Product/Consumption-based affective responses and post-purchase processes. *Journal of Marketing Research*, 24, August, 258-270.
- Woo Ka-Shing, Fock K. Y. Henry (1999). Customer satisfaction in the Hong Kong mobile phone industry. *The Service Industries Journal*, 19 (3), 162-174.
- Woodruff, R. T., Cadotte, E. R., & Jenkins, R. L. (1983). Modelling consumer satisfaction processes using experience-based norms. *Journal of Marketing Research*, 20, 296-304.
- Woodside, A., Frey, L., & Daly, R. (1989). Linking service quality, customer satisfaction & behaviour intention. *Journal of Health Care Marketing*, 9, 5-17.
- Zahorik, Anthony J., & Roland T. Rust (1992). Modelling the impact of service quality on profitability – A review. *Advances in Service Marketing*, 1, Teresa A. Swartz, David E. Bowen, and Stephen. Brown, ed. Greenwich, CT: JAI Press, 247-276.
- Zeithaml, V. A., & Bitner, M. J. (2000). *Service marketing: Integrating customer focus across the firm*, international edn. Boston: McGraw-Hill. 99-103.
- Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1993). The nature and determinants of customer expectations of service. *Journal of the Academy of Marketing Science*, 21, Winter, 1-12.
- Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 60, April, 31-46.
- Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1990). *Delivering quality service: Balancing customer perceptions and expectations*. New York: Free Press.
- Zemke, R., & Albrecht, Karl. (1995). *Service America: Doing business in the new economy*. NY: Warner Books.

APPENDICES

Appendix 1 – Cellular Industry Statistics

**Appendix 2 – Reliability and Correlation
Analysis Results**

**Appendix 3 – Service Provider Survey
Questionnaire**

Appendix 4 – Customer Survey Questionnaire

Appendix 5 – Socio-Economic Classification

Appendix 1 – Cellular Industry Statistics

Table A-1 Indian Service Providers and their Subscriber Base

RANK OPERATOR	CIRCLES COVERED	NO. OF SUBSCRIBERS		PERCENTAGE CHANGE
		(2004-05)	(2003-04)	
BSNL	All India (except Delhi and Mumbai)	35,733,640	36,394,429	-2
MTNL	Delhi and Mumbai	4,075,340	4,331,153	-6
Tata Teleservices	Andhra Pradesh, Gujrat, Karnataka, Delhi, Tamil Nadu, Orissa, Bihar, Rajasthan, Punjab, Haryana, HP, UP (E), UP (W), Kerala, MP, West Bengal	1,829,070	666,955	174
Reliance Infocomm	Andhra Pradesh, Gujrat, Karnataka, Delhi, Tamil Nadu, Orissa, Bihar, Rajasthan, Punjab, Haryana, HP, UP (E), UP (W), Kerala, MP, Maharashtra, Goa, West Bengal	1,310,799	503,352	160
Bharti Tele-venture	Delhi, Haryana, Karnataka, MP, Tamil Nadu, UP (E), UP (W), Gujrat, Maharashtra, West Bengal, Punjab	857,262	636,625	35
Tata Teleservices (Maharashtra)	Maharashtra, Goa	749,478	337,159	122
HFCL Infotel	Punjab,	193,533	121,104	60
Shyam Telelink	Rajasthan	157,073	94,387	66
All Operators	India	44,906,195	43,085,164	4

Source: VOICE & DATA (2005) July 12 (1), 34

Table A-2 World Cellular Projected Growth

(**Figures in millions)

Region	2000	2001	2002	2003	2004	2005	2006	CAGR
Africa	16.40	27.00	48.32	69.54	88.61	107.58	128.45	39.00%
South America	63.57	86.90	128.22	166.78	200.10	226.33	247.63	24.30%
Asia Pacific	232.95	325.95	451.25	571.74	680.82	775.30	855.30	23.13%
Europe (East)	29.43	46.10	63.76	78.83	92.01	103.43	112.99	24.02%
Europe (West)	260.21	314.93	409.31	476.21	522.41	553.88	575.73	13.55%
Middle East	10.45	14.96	20.10	25.92	32.39	39.19	45.77	26.66%
USA/Canada	116.46	134.90	163.78	190.04	215.21	238.09	258.50	13.61%
Total	729.46	950.73	1,284.75	1,579.07	1,831.55	2,043.80	2,224.38	19.53%

Source: 2004 Market: Global Mobile Communications Market Report, BuddComm, April 2004.

Table A-3 Churn Figures in World Cellular Market

Country	Operator	Annualized Churn (%)	Applicable Date
Belgium	Mobistar	24.3	6 months ending Jun 2000
Bulgaria	Westel	13.1	2000
France	France Telecom Mobile	22.3	2000
Netherlands	Dutchtone	7.4	6 months ending Jun 2000
Finland	Sonera	12.4	2000
France	SFR	29.2	1999
Greece	Telestet	27.6	2000
Italy	TIM	13.2	2000
Norway	Telenor	13.0	2000
Switzerland	OCSA	36.6	6 months ending Jun 2000
Turkey	Turkcell	6.9	2000
UK	BT Cellnet	29.0	Mid-2000
UK	One2One	23.0	Q2 2000
UK	Orange	9.2	2000
UK	Vodafone UK	24.1	6 months ending Sep 2000
Canada	MTS	16.8	2000
Mexico	Iusacell	38.4	Q1 2001
US	Alltel	25.9	2000
US	AT&T Wireless	34.8	2000
US	Nextel	20.4	2000
US	Sprint PCS	33.6	2000
US	TDS	21.6	2000
US	Triton PCS	21.6	2000
US	Verizon Wireless	33.6	Q1 2001
US	Western Wireless	26.4	2000
Australia	C&W Optus	22.0	2000
Australia	Telstra (Mobile)	16.0	2000
Brazil	Telesp Cellular	14.1	2000
Japan	NTT DoCoMo	19.2	2000

Source: Informa. UK, (2001)

Appendix 2 – Reliability and Correlation Analysis Results

Table A-4 Reliability Test Results for Service Quality Attributes

Reliability Statistics					
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items			No. of Items	
0.923	0.926			26	
Item Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item: Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SQ1Highreput	125.32	411.211	0.585	0.438	0.920
SQ2buildrel	125.68	403.906	0.650	0.560	0.919
SQ3trueinfo	125.40	408.897	0.556	0.447	0.920
SQ4attracschem	125.55	407.462	0.609	0.541	0.919
SQ5Proschemes	125.76	406.694	0.543	0.557	0.920
SQ6adverpurch	125.41	408.368	0.541	0.438	0.920
SQ7locatdeal	124.89	410.800	0.553	0.430	0.920
SQ8infoetail	125.45	407.113	0.606	0.497	0.919
SQ9promptdeal	125.50	406.859	0.636	0.536	0.919
SQ10procesubs	125.28	411.641	0.497	0.390	0.921
SQ11ntwkavail	125.53	409.548	0.472	0.472	0.922
SQ12qualvoice	125.24	413.319	0.334	0.235	0.925
SQ13coverage	125.54	408.223	0.511	0.519	0.921
sq14roam	125.29	409.878	0.544	0.434	0.920
SQ15VArVAS	125.37	410.931	0.558	0.448	0.920
SQ16AccBill	125.33	412.385	0.446	0.420	0.922
SQ17readbill	125.11	415.056	0.448	0.455	0.922
SQ18locpay	124.99	414.421	0.480	0.346	0.921
SQ19getCCR	125.60	410.422	0.500	0.390	0.921
SQ20politestaff	125.27	410.704	0.548	0.453	0.920
SQ21promisedone	125.58	404.722	0.622	0.516	0.919
SQ22CSRinterst	125.57	409.407	0.619	0.547	0.919
SQ23suffknow	125.50	406.814	0.631	0.539	0.919
SQ24keeprecord	125.11	409.306	0.620	0.515	0.919
SQ25serpack	125.32	410.872	0.588	0.532	0.920
SQ26pricing	125.28	412.815	0.530	0.481	0.921

Table A-5 Inter-Item Correlation Matrix for Six Service Quality Factors

Factor 1: Service Promotion and Communication						
	SQ5	SQ4	SQ3	SQ6	SQ2	SQ1
SQ5	1.000					
SQ4	0.630(**)	1.000				
SQ3	0.510(**)	0.506(**)	1.000			
SQ6	0.528(**)	0.510(**)	0.439(**)	1.000		
SQ2	0.526(**)	0.548(**)	0.454(**)	0.466(**)	1.000	
SQ1	0.361(**)	0.382(**)	0.404(**)	0.369(**)	0.561(**)	1.000
**N = 545 Correlation is significant at the 0.01 level (2-tailed). SQ5 – Promotion and Communication, SQ4 – Provider provides attractive schemes, SQ3 – Provider provides true information about products/services, SQ6 – Advertisement are effective in purchase decision, SQ2 – Provider builds relationship, SQ1 – Provider with high reputation						
Factor 2: Service Support						
	SQ20	SQ23	SQ22	SQ19	SQ21	SQ24
SQ20	1.000					
SQ23	0.501(**)	1.000				
SQ22	0.532(**)	0.544(**)	1.000			
SQ19	0.432(**)	0.495(**)	0.386(**)	1.000		
SQ21promisedone	0.447(**)	0.541(**)	0.612(**)	0.425(**)	1.000	
SQ24keeprecord	0.453(**)	0.555(**)	0.546(**)	0.424(**)	0.440(**)	1.000
**N = 545 Correlation is significant at the 0.01 level (2-tailed). SQ20 – Politeness of service staff, SQ23 – Service staff have sufficient knowledge, SQ22 – Service staff show interest in problem solving, SQ19 – Ease of getting through to the call centre, SQ21 – Whenever something is promised it is done, SQ24 – Provider keeps accurate records						
Factor 3: Network Service Performance						
	SQ11	SQ13	SQ12	SQ14	SQ15	
SQ11	1.000					
SQ13	0.599(**)	1.000				
SQ12	0.415(**)	0.376(**)	1.000			
sq14	0.420(**)	0.482(**)	0.303(**)	1.000		
SQ15	0.367(**)	0.419(**)	0.287(**)	0.489(**)	1.000	
**N = 545 Correlation is significant at the 0.01 level (2-tailed). SQ11 – Network Availability, SQ13 – Coverage, SQ12 – Quality of voice, SQ14 – Roaming, SQ15 – VAS						

Table A-5 Correlation Matrix for Six Service Quality Factors, continued.

Table A-5 Correlation Matrix for Six Service Quality Factors, continued.

Factor 4: Service Outlet					
	SQ10	SQ9	SQ7	SQ8	
SQ 10	1.000				
SQ9	0.425(**)	1.000			
SQ7	0.338(**)	0.434(**)	1.000		
SQ8	0.359(**)	0.605(**)	0.421(**)	1.000	
**N = 545 Correlation is significant at the 0.01 level (2-tailed). SQ10 – Process of getting subscription, SQ9 – Promptness and courteousness of salesperson, SQ7 – Location of dealer/retailer, SQ8 – Information provided by the dealer					
Factor 5: Service Billing and Payment					
	SQ17	SQ16	SQ18		
SQ17	1.000				
SQ16	0.570(**)	1.000			
SQ18	0.395(**)	0.386(**)	1.000		
**N = 545 Correlation is significant at the 0.01 level (2-tailed). SQ17 – Readability of Bills, SQ16 – Accuracy of Billing, SQ18 – Ease of getting to the payment location					
Factor 6: Service Bundling and Pricing					
	SQ26	SQ25			
SQ26	1.000				
SQ25	0.648(**)	1.000			
**N = 545 Correlation is significant at the 0.01 level (2-tailed). SQ26 – Appropriateness of pricing, SQ25 – Appropriateness of tariff plans and service packages					

APPENDIX 3: SERVICE PROVIDER SURVEY QUESTIONNAIRE

SECTION 1: CLASSIFICATION DATA

1. Name of the Service Provider:
2. Contact Person:
3. Designation:
4. Been in Market Since:
5. Market Share:
6. Service Type: GSM / CDMA / WLL:
7. ARPU / REVENUE (in last two years):

SECTION 2: CUSTOMER SWITCHING BEHAVIOUR AND CUSTOMER RETENTION PRACTICES

- Question 1).** How do you visualize Indian cellular service industry and its growth? Specifically the Post-paid segment?
- Question 2).** What is your overall impression about the Churn / Attrition in the Indian Cellular Industry?
- Question 3).** What is your overall approach to customer retention and how do you implement it?
- Question 4).** How do you describe customer churn in your organization and what are the different parameters you take into consideration when describing the same?
- Question 5).** Describe the latest customer churn figures for your organization (post-paid customers)

In-Voluntary Churn Rate:	Success Rate of Effort:	Turnaround of Retention	Voluntary Churn Rate:	Success Rate of Effort:	Turnaround of Retention

Question 6). Describe the profile / pattern / different segments of the customer who churn.

In-Voluntary Churn:

Voluntary Churn:

Question 7). In your view what are the different reasons of customer churn?

Question 8). For each of the reason stated above, please elaborate the strategy and method adopted to combat the same

Question 9). What tools do you adopt in order to predict Churn?

Question 10). Describe the process flow adopted in your organization to handle In-voluntary and Voluntary Churn.

Question 11). What are the different customer retention practices, which have been adopted by your organization to retain customers and avoid churn?

Question 12). Do you have any Loyalty / Privilege Club Program? Please provide the details of how do you reward customers for being able to continue with you?

Question 13). Do you employ any Data Mining and Software Tools in order to predict churn?

Question 14). How do you calculate the Customer Life Time Value of Mobile Customer?

Question 15). How Frequently do you conduct your Customer Satisfaction Survey and methodology adopted for the same?

SECTION 3 MEASURING THE SERVICE QUALITY ATTRIBUTE'S PERFORMANCE AND IMPORTANCE

For each of the 26 service quality attributes described below, indicate your feeling about

Question 16a: Rate the your own performance - Indicate your view about your own performance on a scale of 1 – 7(Low – Average - High) for the given Service Quality Attribute

Question 16b: Rate the level of Importance: Indicate on a scale of 1 – 7(Least Important – Very Important) your opinion about the Importance of this Service Quality Attribute

	Service Quality Attribute	Q16a. Performance	Q16 b. Importance
	➤ Corporate Image		
SQ 1	➤ Provider with a high reputation and having a professional outlook and Brand Image	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ2	➤ Provider that strives for building relationship with its subscribers and is committed to Subscriber needs	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Advertisement / Promotion		
SQ3	➤ Provider provides complete & true information about new and existing Products and Services through Advertisement	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ4	➤ Attractive Sales Promotion Schemes launched as compared to Competitors	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ5	➤ Keep you well informed about the Sales Promotion Schemes	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ6	➤ Advertisement are effective in purchase decision and give sufficient information about various services and their usage	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Service Outlets (Dealer/Retailer/Outlets)		
SQ7	➤ Ease of locating a dealer / retailer / outlets selling the products of the Service Provider	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ8	➤ Ability of the retailer to provide complete information on the Tariff Plan, Schemes, Products, Value-added-services, Coverage, Activation, Billing and their Prices	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ9	➤ Promptness, Courteousness of the Sales Person at the Dealer / Retailer / Outlet	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Service Procedures & their convenience		
SQ10	➤ Process for getting Subscription / Termination / Changes in Subscription	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Service Quality (Network Quality)		
SQ11	➤ Network Availability i.e Ease of being able to get a connection for making and receiving, calls without network being busy during Peak and Off-Peak time	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ12	➤ Quality and Clarity of voice i.e While speaking there are no crackling or echo or disturbance, call drop or disconnection	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ13	➤ Range of the Coverage i.e ability to make / receive calls to and from inside buildings, basements, lifts, town limits, highways or from moving vehicles	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ14	➤ Availability of Roaming Service : both national and international from any location at any time i.e ease of making and receiving Roaming Calls / SMS	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Value Added Services (VAS)		
SQ15	➤ Providing a variety of VAS (e.g. Voice-mail, SMS, MMS, Information Services, Dial-In, WAP, Ring Tones etc.)	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Billings & Payments		
SQ16	➤ Accuracy of billing i.e. no mistakes in calculations, adjustments	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ17	➤ Ease of reading and the understanding the bill (adequate information provided on the bill – i.e. providing access charges, monthly rentals etc).	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ18	➤ Ease of accessing payment location	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦

	Service Quality Attribute	Q16a. Performance	Q16 b. Importance
	Customer Service Centre / Help line / (IVR)		
SQ19	➤ Ease of getting through to the Customer Service Centre and Helpline numbers / IVR	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ20	➤ Politeness, Courteousness of the Service Staff	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ21	➤ Whenever something is promised to be done by certain time it happens	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ22	➤ In case of problem, the CSR have sincere interest in solving it	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ23	➤ Service Staff have sufficient knowledge and efficient in resolve queries and complaint	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ24	➤ Provider is keeping accurate data records about your Subscription and your transactions	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Service Charges & Tariff Plans		
SQ25	➤ Appropriateness of Tariff Plans and service packages	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ26	➤ Appropriateness of Pricing	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦

APPENDIX – 4: CUSTOMER SURVEY QUESTIONNAIRE

SECTION 1: DATA ABOUT SERVICE PROVIDER AND SERVICE USAGE

1. When did you start using Cellular Phone Service: YEAR: _____ MONTH: _____

2. Provide the details of your current Service Provider and the type of Service you are using

Name of the Service Provider	Month and Year of the Start of Service	Type of service being used
<input type="checkbox"/> HUTCH <input type="checkbox"/> IDEA <input type="checkbox"/> Reliance <input type="checkbox"/> SPICE <input type="checkbox"/> Tata Teleservices <input type="checkbox"/> BSNL <input type="checkbox"/> AIRTEL <input type="checkbox"/> MTNL		<input type="checkbox"/> CDMA/WLL <input type="checkbox"/> GSM

3. Have you ever changed your Service Provider, since you started using the Cellular Service

- ☐ A. Never ☐ B. Yes ☐ C. You decided to switch over however the Service Provider convinced not to change

If the answer to the above question is A - ("Never"), then proceed to Question Number 7. Else proceed to Question Number 4

4. Provide the details of your previous Service Provider

Name of the Service Provider	Type of Service Used	Pre-Paid / Post Paid	Month and Year switched over
	<input type="checkbox"/> GSM <input type="checkbox"/> CDMA/WLL	<input type="checkbox"/> Post-Paid <input type="checkbox"/> Pre-Paid	

5. Choose one or more reasons from the one's given below, that prompted you to change to your current Service Provider

<input type="checkbox"/> The Services are cheaper and more suitable Tariff Plans are available	<input type="checkbox"/> Moved to a new location / Received a new mobile connection from the Office
<input type="checkbox"/> I have better Connection, Coverage and Voice Quality	<input type="checkbox"/> Friend/Relative/Colleague recommended
<input type="checkbox"/> I have better Customer Care, Helpline, Complaint Handling System	<input type="checkbox"/> I wanted to try out a New Service Provider
<input type="checkbox"/> I have less number of Billing & Payments Problems	<input type="checkbox"/> Current provider has more attractive Promotional and Discount Schemes
<input type="checkbox"/> I have more Variety of Value-Added - Services	<input type="checkbox"/> Current Service Provider provided incentive to switch over
Others, Please specify	

6. When you decided to change / discontinue your previous Service Provider

- (I) Did you change the Service Provider, without informing them? ☐ Yes ☐ No
 (II) Did the Service Provider follow-up to retain you? ☐ Yes ☐ No

7. In terms of “Overall Satisfaction”, my feeling towards the current Service Provider can be best described as

Low			Average			High	
①	②	③	④	⑤	⑥	⑦	
Very Unsatisfied					Very Satisfied		

8. The “Overall Quality” delivered by my current Service Provider can be best described as

Low			Average			High	
①	②	③	④	⑤	⑥	⑦	
Very Poor					Excellent		

9. Would you recommend the products and services of your current Service Provider to your colleagues or friends? Please tell which of these phrases best represents your opinion

☐ Definitely ☐ Fairly Likely ☐ Probably Not ☐ Definitely Not

10. Are you presently considering to change your current Service Provider, Also choose one or more reasons that may influence your thought to change your current Service Provider

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
	Choose one or more reasons for the same are		Choose one or more reasons for the same are
A	Other Service Provider is cheaper and has more suitable Tariff plan	A	Would not like to lose my current Phone Number
B	Looking for a Service Provider with a better Customer Care, Helpline, Complaint Handling System	B	All service providers provide the same service, therefore no need for a change
C	Looking for Better Billing Accuracy and Integrity	C	The Cost of switch over does not make sense
D	Planning to switch the new WLL Service / Try other service provider	D	I am satisfied with the Quality of Service of the present Service Provider
E	Looking for more features and Value Added Services	E	The Tariff Plan offered, by the Present Service Provider is not available with anybody else
F	Looking for better Connection, Coverage and Voice Quality	F	Value Added Services are not available with others
J	Would be moving to a new location / Would be receiving a new mobile connection from the Office	J	Other Service Providers are not offering any incentives/discounts for switch over
I	Other Service Provider is offering incentive for switch over	I	Current Service Provider is cheaper as compared to other
J	Other Service Provider has better Dealer / Retailer / Collection Network	J	The present brand is a status symbol
K	New Service Provider is offering attractive Promotional and Discount Schemes		
	Others, Please specify		Others, Please specify

11. Have you ever participated in a Customer Feedback / Satisfaction Survey conducted by your Current Service Provider

- ☐ Yes ☐ No, I am not aware of such Survey's ☐ No, I am aware that Survey's are conducted but haven't participated

12. Have you ever been rewarded by your Service Provider for loyalty to his brand or for High Usage in a particular period or for Recommending another user etc., in form of discounts or other Incentives. If yes then also mention in what form

- ☐ A. No Never ☐ B. Yes ☐ If yes provide the details _____

13. Did your current Service Provider recommend you to a more suitable Tariff Plan based on your consumption pattern

- ☐ A. No Never ☐ B. Yes

14. On some of your special occasion e:g your Birthday, Anniversary etc., did Call centre surprise you with special greetings / offer you some discounts

- ☐ Yes ☐ Never

SECTION 2 MEASURING THE SERVICE QUALITY ATTRIBUTE'S PERFORMANCE AND IMPORTANCE

In this section we have drawn a list of various Service Quality Attributes that are critical for effective Service Quality Delivery by the cellular phone service providers to their customers.

Question 18a: Rate the Service Provider's Performance: Indicate your view about the Service Provider's Performance on a scale of 1 – 7 (Low – Average - High) for the given Service Quality Attribute

Question 18b: Rate the level of Importance: Indicate on a scale of 1 – 7 (Least Important – Very Important) your opinion about the Importance of this Service Quality Attribute

	Service Quality Attribute	18a. Rate the Service Provider's Performance	18b. Rate the Importance of the Service Quality Attribute
	Corporate Image of the Service Provider		
SQ 1	➤ Provider with a high reputation and having a professional outlook and Brand Image	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ2	➤ Provider that strives for building relationship with its subscribers and is committed to Subscriber needs	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Advertisement / Promotion		
SQ3	➤ Provider provides complete & true information about new and existing Products and Services through Advertisement	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ4	➤ Attractive Sales Promotion Schemes launched as compared to Competitors	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ5	➤ Keep you well informed about the Sales Promotion Schemes	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ6	➤ Advertisement are effective in purchase decision and give sufficient information about various services and their usage	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦

	Service Quality Attribute	18a. Rate the Service Provider's Performance	18b. Rate the Importance of the Service Quality Attribute
	Service Outlets (Dealer/Retailer/Outlets)		
SQ7	➤ Ease of locating a dealer / retailer / outlets selling the products of the Service Provider	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ8	➤ Ability of the retailer to provide complete information on the Tariff Plan, Schemes, Products, Value-added-services, Coverage, Activation, Billing and their Prices	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ9	➤ Promptness, Courteousness of the Sales Person at the Dealer / Retailer / Outlet	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Service Procedures & their convenience		
SQ10	➤ Process for getting Subscription / Termination / Changes in Subscription	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Service Quality (Network Quality)		
SQ11	➤ Network Availability i.e Ease of being able to get a connection for making and receiving, calls without network being busy during Peak and Off-Peak time	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ12	➤ Quality and Clarity of voice i.e While speaking there are no crackling or echo or disturbance, call drop or disconnection	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ13	➤ Range of the Coverage i.e ability to make / receive calls to and from inside buildings, basements, lifts, town limits, highways or from moving vehicles	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ14	➤ Availability of Roaming Service : both national and international from any location at any time i.e ease of making and receiving Roaming Calls / SMS	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Value Added Services (VAS)		
SQ15	➤ Providing a variety of VAS (e.g. Voice-mail, SMS, MMS, Information Services, Dial-In, WAP, Ring Tones etc.)	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Billings & Payments		
SQ16	➤ Accuracy of billing i.e. no mistakes in calculations, adjustments	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ17	➤ Ease of reading and the understanding the bill (adequate information provided on the bill – i.e. providing access charges, monthly rentals etc).	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ18	➤ Ease of accessing payment location	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Customer Service Centre/Help line/ (IVR)		
SQ19	➤ Ease of getting through to the Customer Service Centre and Helpline numbers / IVR	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ20	➤ Politeness, Courteousness of the Service Staff	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ21	➤ Whenever something is promised to be done by certain time it happens	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦

	Service Quality Attribute	18a. Rate the Service Provider's Performance	18b. Rate the Importance of the Service Quality Attribute
SQ21	➤ Whenever something is promised to be done by certain time it happens	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ22	➤ In case of problem, the CSR have sincere interest in solving it	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ23	➤ Service Staff have sufficient knowledge and efficient in resolve queries and complaint	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ24	➤ Provider is keeping accurate data records about your Subscription and your transactions	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
	Service Charges & Tariff Plans		
SQ25	➤ Appropriateness of Tariff Plans and service packages	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦
SQ26	➤ Appropriateness of Pricing	① ② ③ ④ ⑤ ⑥ ⑦	① ② ③ ④ ⑤ ⑥ ⑦

SECTION 3: CLASSIFICATION DATA

We need some data to classify the Cellular phone users into different segments. Please note that the information you provide will be used for the purpose of classification only and will not be shared with anyone else.

a) Last six digits for your current Mobile Phone Number _____

b) Gender : Male / Female

c) You use your Cell phone for the purpose of

☐ Business ☐ Personal ☐ Both

d) On an average what is your monthly expense (bill amount) for cellular phone usage? Average monthly expense :
Rs _____/month

e) Who pays the bill for your cellular usage?

Self – fully	1
Partly by Employer.....	2
Fully by Employer.....	3
Parents / Guardian	4

f) What is your age, in completed years?
_____ Years

g) Do you avail of the roaming facility from your Cellular service provider?

☐ Yes ☐ No

h) What is your current occupation?

OCCUPATION	
Unskilled / Skilled worker.....	1
Trader / Shop owner / Business.....	2
Self Emp. Professional.....	3
Govt. Service	4
Private Sector	5
Student	6
Retired	7
Not working.....	8

i) What is your highest level of education?

EDUCATION	
Completed School	1
Graduation/ Diploma.....	2
Post Grad and above.....	3
Professional Qualification	4
Not Completed Schooling.....	5

j) Indicate your monthly Household and also your Personal Income in case you are working

Monthly Income	Household	Personal
Upto Rs.6000	1	1
Rs.6001-.10,000	2	2
Rs.10,001-14,000	3	3
Rs.14,001-20,000	4	4
Rs.20,001-30,000	5	5
Rs.30,001+	6	6

Appendix 5 - SOCIO-ECONOMIC CLASSIFICATION										
		EDUCATION								
OCCUPATION		Literate	Literate but no Formal Schooling	School Upto 4 Years	School Upto 5..9 Years	SSC/HSC	Some College but not Graduate	Graduate	Post-Graduate	Post-Graduate Professional
Unskilled Worker		E2	E2	E2	E1	D	D	D	D	D
Skilled Worker		E2	E1	E1	D	C	C	B2	B2	B2
Petty Trader		E2	D	D	D	C	C	B2	B2	B2
Shop Owner		D	D	D	C	B2	B1	A2	A2	A2
Businessman	None	D	C	C	B2	B1	A2	A2	A2	A1
Industrial No. of employees	1..9	C	B2	B2	B2	B1	A2	A1	A1	A1
	10+	B1	B1	B1	A2	A2	A1	A1	A1	A1
Self Employed / Professional		D	D	D	D	B2	B1	A2	A2	A1
Clerical/Salesman		D	D	D	D	C	B2	B1	B1	B1
Supervisory Level		D	D	D	C	C	B2	B1	B1	A2
Officers/Executives' - Junior		C	C	C	C	B2	B1	A2	A2	A2
Officers/Executives - Middle / Senior		B1	B1	B1	B1	B1	A2	A1	A1	A1

** Source ORG-MARG, New Delhi.